This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

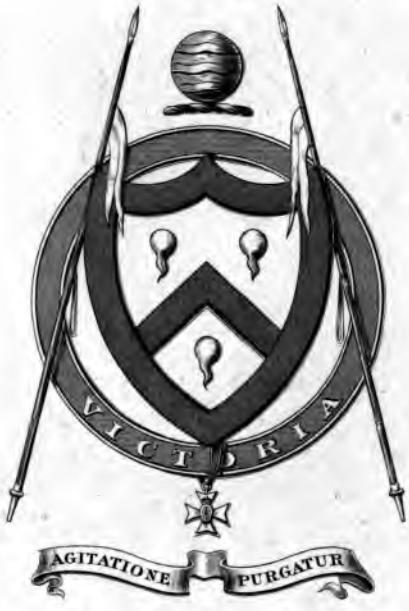
+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

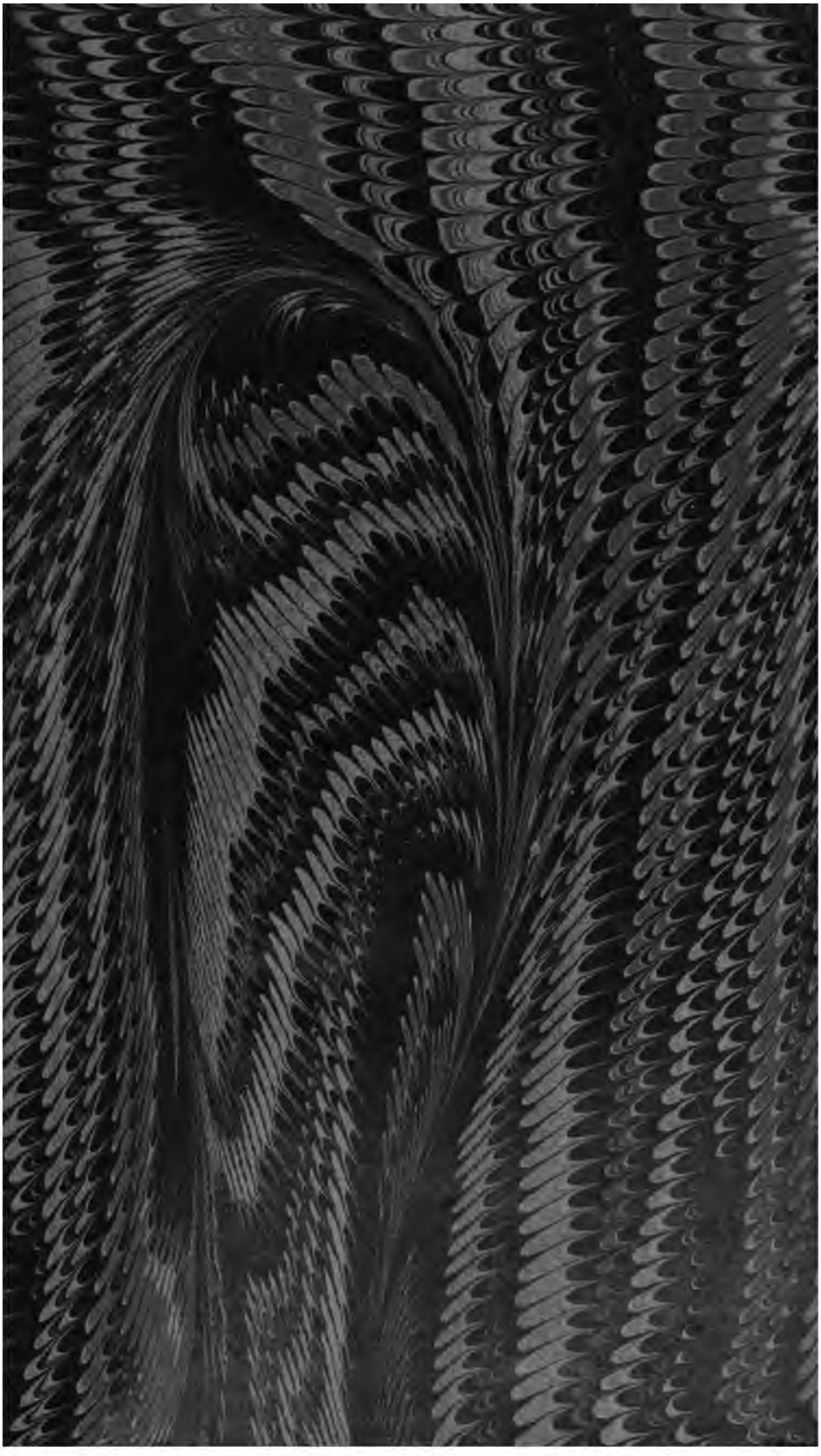
Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

B 1,284,241

Ex Libris.



Major General John Cecil Russell,
Colonel 12th Royal Lancers.



Contents.

tactics v. II

(1). Regulations for training of troops for ser
in the field, and for the conduct of p
Manœuvres. translated by Lieut. Barin

(2). The Elementary tactics of the Prussian Inf
translated by Lieut. Baring R.A.

(3). not signed Minor tactics of Field Artillery. by Lieut. H

(4). not signed A few notes on the handling of Horse Arti
and Cavalry. by Capt. Ketchen R.H.A.

(5). The system of attack of the Prussian Infa
in the campaign of 1870–71. by the Duke of
Württemberg. translated by Capt. Robinson
Brigade.

REGULATIONS

FOR

THE TRAINING OF TROOPS

FOR SERVICE IN THE FIELD,

AND FOR THE

CONDUCT OF PEACE MANŒUVRES.

(TRANSLATED FROM THE GERMAN AT THE TOPOGRAPHICAL AND STATISTICAL DEPARTMENT OF THE WAR OFFICE, BY LIEUTENANT E. BARING, ROYAL ARTILLERY.)

LONDON:
PRINTED FOR HER MAJESTY'S STATIONERY OFFICE,
BY HARRISON & SONS,
Printers in Ordinary to Her Majesty.

1871.

U
15
.M675
v. 2

Gift of
Prof. L. C. Karpinski
1-10-52

INDEX.

	Page
I. General considerations on the object, arrangement, and conduct of peace manœuvres	2
II. Outpost duties (*Aufklärungs und Sicherheitsdienst*) ..	6
A. Outpost duties on the march	8
(*a.*) General considerations	8
(*b.*) Special regulations	9
B. Outpost service (*Vorposten dienst*)	12
(*a.*) General considerations	12
(*b.*) Regulations on outpost duties	15
(*aa.*) The outpost commander	15
(*bb.*) The outlying piquets	16
(*cc.*) Patrols	21
(*dd.*) Relief of the outlying piquets	23
(*ee.*) Inlying piquets	23
(*ff.*) The main body of the outposts	23
C. Duties of orderlies, &c.	24
III. Marches	27
IV. Bivouac	32
A. General considerations	32
B. Duties in bivouac	33
C. Arrangement of the different arms of the service in bivouac	36
(*a.*) Infantry	36
(*b.*) Cavalry	37
(*c.*) Artillery	39
D. Regulations in cases of alarm	40
E. Breaking up the bivouac	40
V. Regulations for duties in cantonments	41
A. General considerations	41
B. Duties in cantonments in time of war	42
C. Duties in cantonments in time of peace	46
VI. Regulations on the conduct of peace manœuvres	46
A. Manœuvres against a suppositious enemy, or against an enemy represented by flags, signals, skeleton battalions, &c.	46
B. Manœuvres of two separate bodies of troops operating against each other	48
(*a.*) Plan of the manœuvres	48
(*b.*) Distribution and disposition of the forces ..	50
(*c.*) Conduct of the manœuvres	51
(*d.*) Close of the manœuvres, and criticism on them	52
(*e.*) Occupation of outposts, bivouacs, and cantonments	53
(*f.*) Resumption of the manœuvres	54
(*g.*) Cantonments	54
(*h.*) Disposition of the train in bivouac	55
(*i.*) Close of the manœuvres	56

Page

VII. Special regulations on the conduct of the manœuvres, and on the duties of the umpires 56
Appendix I. Officer commanding the cavalry 65
Appendix II. A. Rules for avoiding accidents, disorder, and injury to private property 66
" B. Dress of spectators and umpires 67
Appendix III. Distribution of the time allotted to peace manœuvres 68
Appendix IV. Reports, returns, &c. 69
Form 1. Return of the field exercises of an army corps 73
Form 2. Statement of extraordinary expenses caused by the autumnal exercises of an army corps .. 74
Appendix I to Form 2. Pay 75
Appendix II to Form 2. Rations 76
Appendix III to Form 2. Garrison administration; expense of manœuvres; allowances 77
Appendix IV to Form 2. Hospitals.. 78
Appendix V to Form 2. Travelling expenses, freight, &c. 79
Form 3. Review order of an army corps.. 80
Form 4. Example based on Appendix I of the plan of mobilisation 81
Form 5. Report on the autumnal exercises of a corps .. 82

REGULATIONS

FOR THE

TRAINING OF TROOPS FOR SERVICE IN THE FIELD

AND

FOR THE CONDUCT OF PEACE MANŒUVRES.

THE annexed Regulations are intended to ensure a uniform system both in the training of troops for service in the field and also in the method of conducting peace manœuvres in accordance with those principles which previous experience has shown to be best adapted for forming commanders of all ranks and preparing soldiers for war.

Where opportunities for active service in the field are rare, it is all the more important to keep up the efficiency of the army by means of peace-manœuvres, and the manner in which these are designed and carried out is therefore matter of great consequence.

Since the publication of my regulations relating to manœuvres, dated 29th June, 1861 (which are hereby cancelled), the changes which have taken place in the armament of troops, and the experience gained in two campaigns, have rendered new regulations necessary.

I therefore think it right to issue the annexed regulations, and I desire you to promulgate them throughout the Army.

Berlin, 17th June, 1870.

(Signed) WILLIAM.
(Countersigned) VON ROON.

To the Minister of War and Marine.

I. GENERAL CONSIDERATIONS ON THE OBJECT, ARRANGEMENT AND CONDUCT OF PEACE MANŒUVRES.

1. The object of all peace manœuvres is to prepare officers and men for active service in the field, and they must therefore be conducted with reference to the requirements of actual warfare. Only those formations and dispositions which can be represented in a manner resembling the reality, should be employed, and every quality called for in war should be developed and cultivated.

2. The duties of the soldier in war are simple. He should at all times be able to march and make effective use of his weapons.

His powers in this respect are limited by his moral and physical capacity, and they can only be thoroughly utilized when subject to the will of his leader and regulated by discipline.

Marching and the use of arms may be taught in time of peace; physical and moral power may be strengthened and developed; but discipline—that foundation stone of an army, the preliminary condition of all success, the maintenance of which is so necessary and beneficial,—is a work of time, and can only be instilled by the untiring and devoted zeal of the officers.

3. The various exercises prescribed in the regulations and instructions are intended to train the soldier in the direction indicated.

Drill is not merely a direct preparation for the duties of active service; it is something more; for, by strictly enforcing certain forms, discipline is strengthened and maintained.

4. Gymnastics are designed to increase the moral capacity as well as the physical strength of the soldier. Having been made concious of his personal strength and address, a man will feel himself equal to any opponent, and will not shrink from an attempt to overcome such difficulties as he may be called upon to encounter.

5. The skilful handling of arms added, in the case of a mounted man, to superior horsemanship, serves a double purpose:—in the first place, it enables the man to make good use of his weapons; and in the second place, it raises him in his own estimation. It is this which renders the thorough training of a soldier, and his knowledge of the value and effect of his arms, of such great importance.

It should not, however, be forgotten, that, in action, it is less important that a man should possess superior skill in handling his weapons, than that he should be cool enough to use them properly during all phases of the engagement. He must therefore be so thoroughly trained that he will handle his

weapons on all occasions, in accordance with the prescribed regulations.

6. Theoretical instruction in all branches of a soldier's duty goes hand in hand with these practical lessons, and frequently forms an integral portion of them. It will be all the more valuable if the instructor knows how to adapt his teaching to the capacity of his pupils, so as to enable them to grasp his meaning, and obtain a thorough knowledge of their profession.

7. We have thus indicated the principal objects which should be kept in view in training the soldier. By making suitable arrangements, we may strive to attain several of these at the same time, and thus keep alive the interest of the men in their instruction much better than by following a mere system of mechanical routine, however good of its kind.

8. The duty of the leader during manœuvres—officer or non-commissioned officer—is of a double nature; he should teach others as well as learn himself.

His personal bearing exerts great influence over the men, and sets an example to his subordinates. In war, especially at critical moments, men readily yield to the impression created by a resolute and firm bearing on the part of their officers, and it should be the earnest endeavour of leaders of all ranks to acquire this quality.

It is not sufficient to give an order or even to give the right order, and see it carried out; the *manner* in which an order is given has great influence on the conduct of the men.

9. The training of individuals—be they officers or men—constitutes the foundation for the efficient training of any body of troops. The useful and harmonious co-operation of the integral parts which constitute a regiment can only be expected when every individual belonging to it has received this training. A superficial cohesion, the result of mere drill, is sure to fall to pieces in critical moments. Discipline can only be expected to furnish a firm bond of union when it is based upon the consciousness that success depends upon the co-operation of all, in the manner directed by the commanding officer.

10. Especial attention is therefore to be paid on every occasion to the maintenance of order in the ranks, and to the existence of a close connection between the several units which form any body of troops. No essential difference should be made in this respect between movements executed on the parade-ground and those executed in the field. The natural features of the locality chosen for the peace manœuvres may not admit of all movements being performed with the same precision as on parade, but the attention of the men to the preservation of the prescribed forms when they are possible should never be allowed to slacken. Nor are the men to be permitted to march at ease, open their collars, &c., during field exercises without the special permission of their officers.

The condition and the state of discipline of a body of troops

at the close of a fatiguing field-day affords a safe criterion of their general efficiency.

11. The elementary training of all troops usually takes place on the parade-ground, and in accordance with existing regulations. It should be the special object of this training, not only to explain the literal signification of the regulations, but to cause the men to enter into the spirit of them; attention should not only be paid to every detail contained in them, but the lessons which they seek to impart should be amplified and varied.

Elementary exercises on the drill-ground prepare troops for exercises in the field, and consequently for war itself. It will be of advantage to arrange even the former as far as possible with reference to the requirements of actual warfare, in order to associate the two in the mind of the soldier, and teach him the *reasons* why certain things are required of him.

In this spirit the most simple evolutions may occasionally be gone through by two opposing parties, and the men instructed how events which cannot be represented during peace—such, for instance, as an actual collision between two bodies of men—may be brought about in actual warfare; how it would be attended with smaller loss to attack boldly, after having approached within 100 paces, than to subject one's-self to a murderous fire by retreating for a more considerable distance, &c., &c.

These simple movements and evolutions should be practised under every variety of circumstance of time and position. They should be carried out on even and on broken ground, by day and by night, &c., &c. Speaking generally, it is of greater importance to know thoroughly a few simple formations, and the various methods in which they may be turned to account, than to be acquainted superficially with ever so large a number of complicated movements.

12. The men must be accustomed by degrees to go through their exercises in heavy marching order. The demands made upon the physical endurance of the men should be in accordance with those which would probably be required in actual warfare, but even under circumstances which call for great exertion on the part of the men, they should not be allowed to relax their attention to the instruction which it is the object of these manœuvres to impart.

The exertions which the soldier is called upon to make are not intended merely to accustom him to marching, &c., but are also intended to strengthen his resolution to surmount obstacles, and to confirm him in the conviction that the maintenance of order is an advantage to the individual as well as to the whole force.

13. The constant exercise of outpost duties affords one of the most favourable methods for arousing and developing the individual intelligence and resource of the soldier. Cavalry, on [illegible] the duty of patrolling, &c., would principally devolve in

time of war, should be especially instructed in everything relating to outposts, and infantry and cavalry should be occasionally exercised conjointly. Even in those cases in which, by reason of the cultivation of the fields, these exercises have to be confined to the roads, they will prove of the utmost utility.

14. In the exercise of small bodies of men, the training of the regimental officers and men is the chief point to which attention should be paid.

In the exercise of companies, squadrons, and even of battalions, it will be found more serviceable to practise in detail certain disconnected phases of an engagement, such as the attack of a village, the passage of a defile, &c., rather than to attempt to carry out a series of connected manœuvres, based on strategical principles, which it would rarely fall to the lot of such small bodies to execute. These phases of an engagement may either be represented by two opposing forces or by a skeleton enemy.

The training of the superior officers becomes the principal object when the body of troops is large, and includes the different branches of the service. On such occasions it is perfectly admissible to place an officer occasionally in a superior position to that to which his rank entitles him, so as to prepare him for filling it efficiently.

15. One of the most essential and most important parts of the duty of non-commissioned officers in action is to maintain tactical order, and to assist the officers to keep their men well in hand.

Officers must accustom themselves by practice to judge of the right mean between an independence of action based upon intelligence and a spirit of enterprise, and the dependence upon superior orders which is necessary when co-operating with others for a common purpose.

If the exercises be conducted properly, and the assumed conditions of the engagement be occasionally and unexpectedly changed, officers will soon learn that a body of troops can only hope to meet these varying conditions with success by remaining readily at the disposition of their superior officers. They will recognize that their dependence upon the general arrangements of the whole body should never be lost sight of, and that, although they may at times act independently, they must still return to their dependent position as soon as circumstances admit of their doing so.

16. It is of the utmost importance in the training of superior officers that they should be able to grasp quickly the conditions and relative positions of the opposing forces on the immediate theatre of war, that they should rapidly decide upon what course to pursue, and act vigorously.

Exercises which call for these qualities should not, however, be confined to the officer exercising the supreme command. On the contrary, they will prove of greater use, in proportion as they afford leaders of smaller divisions opportunities for the

performance of special duties. These exercises should not, moreover, be confined to the events of a battle field, but should include the movements both prior and subsequent to the battle.

When peace manœuvres lead up to a supposed engagement they have the advantage of accustoming the soldier to preserve his steadiness under fire, the importance of which should always be strongly impressed upon him. The subordinate officers will also learn that a decisive success can rarely be achieved in war by mere manœuvring without coming into actual collision with the enemy. This will contribute in no small degree to awaken and keep alive an eagerness and desire to get at the enemy, which will become a second nature, and cannot fail to be of the utmost use in actual war.

II. OUTPOST DUTIES.

The services which in German are distinguished by the terms "Sicherheitsdienst" and "Aufklärungsdienst," are, in English, embraced under the general term of "Outpost duties;" but in this amalgamation of terms it must be borne in mind that the nature of the duties performed by outposts may be of two different characters; in the one case (Sicherheitsdienst) the special duties of the outposts relate to the security of the army; hence the small detachments of troops which should be spread round the army in all directions from which attack is possible, must be constantly on the alert, and thus afford timely notice of the quarter from which attack is to be expected; in the second case, the special duties of the outposts (Aufklärungsdienst) relate more especially to offensive war and to the movements, disposition, and strength of the enemy, on which subjects it is of the utmost importance to obtain reliable information; hence small bodies of men, principally of cavalry, are pushed forward in all directions, on whose reports the movements of the main body will often in a great measure depend.

In very many cases the two services indicated above will be performed simultaneously by the same parties, but instances will not unfrequently occur where each service will be distinct, and will call for separate detachments.

In obtaining information about the enemy a wide field of activity is opened out not only to officers of all ranks, but even to individual soldiers, who are afforded frequent opportunities for useful independent action.

2. In many cases single troopers or small detachments will be better able to obtain trustworthy information about the enemy than larger bodies of men. Well mounted officers, accompanied by a few orderlies, can also be employed with the

greatest advantage on this duty. An officer thus employed should endeavour, with all possible security and despatch, to gain some point in advance of the army, from which a good view of the surrounding country may be obtained; he should avoid fighting, and should trust solely to the speed of his horse to ensure his personal safety. The power of rapidly realizing the position of affairs and a sound judgment are qualities which are essential on such occasions. These observations will generally be most successful in attaining their object if made in the direction of the enemy's flanks and rear. It will frequently happen that a variety of details—such as the strength of the enemy, the direction of his march, the position of bivouacs, &c., —will have to be grasped at a glance, a correct opinion formed upon them, and a full and *trustworthy* report dispatched without loss of time. An officer thus employed will do well to satisfy himself, as far as possible, by personal inspection, of the truth of anything of importance which he may report. In his written report he should distinguish between what he has himself seen and what he has learnt from others. Place and time must be invariably inserted in his report.

Officers employed to observe the movements, &c., of the enemy may advantageously be left for a considerable time in his immediate vicinity, or on prominent points where an extensive view of the surrounding country can be obtained. They need not be over-anxious as to their communications, as they can often send their reports by circuitous routes, but they must return whenever the enemy renders their position untenable or when its further occupation is useless.

3. When the watchfulness and the number of the enemy's advanced troops renders it impossible to obtain information by means of small detachments, it may become necessary to to send forward a larger detachment to push back the enemy or to break through his line. It is advisable in such a case to employ a body of troops sufficiently strong to ensure success, as failure would induce the enemy to take counter-measures, and to increase the strength of his advanced troops.

A detachment sent on such a service should endeavour to get as close as possible to the enemy without being discovered. When his presence is once discovered, the officer in command must act rapidly and vigorously, without, however, engaging the enemy more than is necessary for the attainment of his object; he should then return as quickly as possible.

Extensive reconnaissances of this kind are, however, only of real service if the knowledge obtained through them is utilized at once; for if a delay be allowed to take place, the positions of the enemy may at the moment of action be found to have been altogether changed.

A. Outpost Duties on the March.

(a.) *General Considerations.*

4. The duty of ensuring the security of troops on the march naturally devolves, in a great measure, on the advanced and rear-guard. The advanced or rear-guard usually consists of from one-fourth to one-sixth of the whole body and is composed of all arms of the service. This proportion need not, however, be strictly adhered to, especially not in the case of small bodies of men, but care should always be taken to preserve as far as possible each tactical unit intact. A sufficiently strong body of cavalry must, in all cases, be attached to every advanced guard. Under certain circumstances,—for instance, when at a long distance from the enemy, or in the case of small detachments moving over open ground,—the advanced guard may be formed entirely of cavalry.

The advanced guard is charged with the duty of reconnoitring the country for a suitable distance in advance and on both flanks of the line of march of the main body; it must also secure its own flanks. The extent of country to be thus reconnoitred, and the special measures which should be adopted under various circumstances, are dependent upon the strength and composition of the troops, and upon the features of the ground.

Whatever measures may be taken it is always essential not to cause any delay in the advance of the main body. The principal object to be attained is to guard the troops against an unexpected attack by superior forces.

Small detachments of the enemy are themselves exposed to danger; much attention need not therefore be paid to them, and they must not be allowed to interfere with the advance of the whole force. It is, however, of some importance to prevent hostile patrols from obtaining correct information. Should it become necessary to guard the flanks of the main body with peculier care, special arrangements must be made, and a separate detachment may be formed to march on its flanks in a paralled direction to the general line of march. If a flank-march in the immediate proximity of the enemy is to be executed, the best method for concealing it and effecting it with safety is to order a separate detachment, frequently the advanced guard itself, to maintain its position whilst the main force carries out the movement. In such cases a small advanced guard would have to be specially formed to precede the main force during its flank-march, and the larger advanced guard (properly so-called), would not be recalled until the movement was completed.

The rear-guard must be organized with a view to its being able to sustain a serious engagement. It is intended to protect the rear of the main force, and it must consequently observe the

advance of the enemy, and, by occupying favourable positions, take every opportunity to delay his onward march. It must keep itself well informed at all times on the movements of the main body, for upon these movements the amount of resistance to be offered to the pursuing enemy must be made to depend.

Occasionally it will be necessary to provide a retreating body of troops with an advanced guard, or on the other hand an advancing army with a rear guard.

5. Security on the march is best obtained by sending out cavalry patrols to the greatest distance possible; infantry can be employed for this purpose when the ground is exceptionally broken and difficult. The force of cavalry will be able either itself to overcome the resistance with which it meets, or to send such information to the officer commanding the advanced guard, as will enable him to adopt measures suitable to the occasion. Many cases arise in which the safest and best course is to push cavalry detachments as far ahead as possible; these may sometimes be supported by small detachments of infantry in wagons. If the cavalry told off for this duty be permitted to retain its original start, it will impart a steadiness and regularity of progress to the main body, which could not be attained if it merely marched at the head of the column, and was only sent in advance in haste in cases of necessity.

A body of infantry following in rear and at a suitable distance from cavalry forms a support, in the event of the latter being forced to fall back.

Occasionally an independent detachment of cavalry may be ordered to keep in close contact with the advanced troops of the enemy, without reference to the movements of its own main body or supports.

Marches to the field of manœuvre or those in the intervals between separate manœuvres are more suitable as a means of affording instruction on the conduct to be observed when the opposing parties are operating at a considerable distance from each other than are the manœuvres themselves. The enemy, in the former of these cases, is either wholly suppositious, or is indicated by small skeleton detachments.

(*b.*) *Special Regulations.*

6. The advanced guard of every advancing body of troops consists of a number of detachments, decreasing progressively in strength from front to rear.

The object of each of these detachments is to guard the stronger body which follows immediately in its rear against surprise, and to afford it time to prepare to receive an attack. This consideration, therefore, usually regulates the intervals which should be preserved between strong detachments.

When the detachments are small, the intervals need only

be sufficiently great to prevent the possibility of the rear detachment being suddenly brought under a close fire of musketry.

With regard to the rate of march, the pace of the smaller detachments should be regulated by that of the larger ones. It is the duty of the latter to maintain the connection with the front; the former, on the other hand, should keep the detachments in rear well informed of all that takes place in front.

Sufficient security against sudden attack will usually be obtained if a body consisting of from one-sixth to one-third of the advanced guard, and called in German the "Vortrupp" be allowed to precede the march of the advanced guard (Avant-Garde); a few files are detached from the "Vortrupp" and pushed to the front; these form the absolute head (Spitze) of the column. When the advanced guard is of considerable strength it may become necessary to form a third intermediate body between the "Vortrupp" and the advanced guard; this body is termed in German the "Vorhut." Small advanced guards of not more than one division (Zug)* of infantry do not detach any "Vortrupp," but send a few files to the front to form the head (Spitze) of the column. The same rule applies to an advanced guard of not more than half a squadron of cavalry, if the ground be sufficiently open to admit of a good view ahead being obtained.

7. The head (Spitze) of the column consists of three men and a non-commissoned officer. Two men walk or ride about 200 paces in advance of the "Vortrupp" one on either side of the road. A third man keeps up the connection of the former two with the "Vortrupp." A non-commissioned officer is generally placed midway between the two men in front and the connecting man. At night, or in marching over enclosed ground which does not admit of a good view a-head being obtained, the head (Spitze) of the column should keep near the "Vortrupp." The men at the head of the column trail arms in the case of infantry, or, in the case of cavalry, carry arms.

In the case of infantry marching at night or through enclosed ground, it may often be advisable to detach a section to the front to form the head (Spitze) of the column.

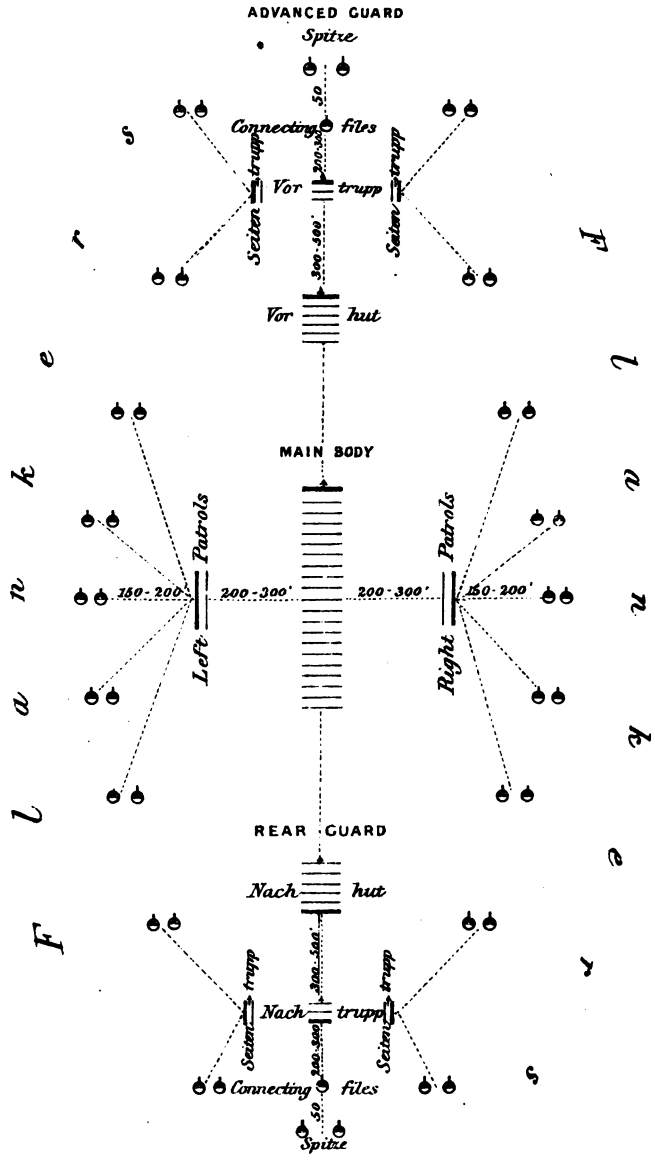
8. The "Vortrupp" generally consists exclusively of one arm of the service, and its strength does not as a rule exceed a division of infantry* or cavalry.†

The commander of the "Vortrupp" generally remains with his men, but he may proceed occasionally to the head of the column or to points from which a good view of the surrounding country can be obtained. He must be informed of the road along which he is to march, and is held responsible that the intended line of march is adhered to. He must take care to support the head (Spitze) of the column at the proper time, by

---

* 125 officers and men (Transl.). † 75 officers and men (Transl.).

March of a Column



From A. v. Witzleben's Heerwesen und Infanteriedienst der Königlich Preussischen Armee."

detaching patrols when approaching an enclosed country, or on the appearance of enemy's patrols; he should also detach men from the "Vortrupp" to examine the ground on both sides of the road. Where infantry are thus employed they should not usually allow a greater lateral interval than 500 paces to separate them from the main road; the examination of ground lying at a greater distance is generally left to the cavalry.

Whatever measures be adopted, they should be so rapidly carried out as not to impede the steady advance of the main body, unless when absolutely necessary. For this reason cavalry patrols should precede the infantry, when practicable, and a few troopers should be attached to every "Vortrupp" consisting of infantry.

9. In addition to the detachments already mentioned as marching along the road, flanking parties (Seitentrupps) or patrols should be detached to protect one or both flanks of the advanced guard; these parties should, if possible, move along roads parallel to the main road. These parties usually consist exclusively of cavalry, and, only in exceptionally difficult ground, of infantry. They generally keep abreast of the "Vorhut" or "Vortrupp," which marches along the main road, and keep up such a connection with the main body of the advanced guard as circumstances render necessary.

The flanking-party usually consists of from half a division* to at most two divisions;† it detaches a few men to the head (Spitze) of its line of march, as well as patrols and flankers to cover its own outer flank.

When the advanced guard is weak and the ground is open, it will generally be deemed sufficient to detach from three to twelve men as flank patrols; these latter may in turn detach a few flankers where necessary.

Very weak advanced guards, of not more than 20 or 30 men, will generally be able to dispense with flanking parties, especially when the ground is open.

10. The organization of a rear guard, when marching to the rear, depends principally upon the proximity and conduct of the enemy. When the enemy merely follows at a distance, and it is, therefore, not necessary to be prepared for an immediate engagement, its organization corresponds to that of the advanced guard, consisting of a "Nachtrupp," a "Nachspitze," and occasionally of a "Nachhut."

In addition to these detachments, some cavalry should be left in close proximity to the enemy, so as to ensure the acquisition of timely information respecting his movements.

When marching to the rear, the march of the smaller detachments must be made to depend upon that of the main body, in the same manner as when marching to the front. The larger keep up the connection with the smaller detach-

---

* About 40 men (Cavalry) (Transl.).

† 150 men (Cavalry) (Transl.).

ments, whilst these latter keep the former informed of all that it concerns them to know.

Flanking parties or patrols should be detached to march along roads running parallel to the main road, whenever the rear guard is sufficiently strong to admit of such a course being pursued. These latter should, in all cases, be composed of cavalry; their principal duty consists in obtaining timely information of any attempt on the part of the enemy to turn the flank of the retreating body.

11. The small advanced guard (Vortrab) of a body of troops marching to the rear, or the rear guard (Nachtrab) of troops marching to the front, consists only of a small detachment, usually, of cavalry. This detachment is not intended to fight; its duties are generally those of police, or are purely administrative. When marching to the rear, it may be required to clear the road for the march of the troops, and in that case a few pioneers may be attached to the advanced guard. As a rule it will suffice if such an advanced guard sends a few files to the head (Spitze) of the column, and patrols only in case of necessity.

B. Outpost Service.

(*a.*) *General Considerations.*

12. Outposts are generally charged with two duties: first, to ascertain all they can with reference to the movements, disposition, &c., of the enemy; and secondly, to ensure the safety of the troops bivouacked in their rear.

Both these objects can generally be simultaneously effected, inasmuch as an accurate knowledge of the enemy's position ensures, in many cases, the security of the camp or bivouac.

In the collection of information respecting the enemy, rapidity of movement is necessary; this duty is ,therefore, especially entrusted to cavalry. On the other hand, in order to ensure the safety of a body of men encamped in rear, a certain capacity for independent resistance is necessary; this duty devolves, therefore, generally upon the infantry.

The co-operation of both arms is therefore absolutely necessary to the proper execution of all outpost duties. Only rarely, and then only when the enemy is at a considerable distance, will cavalry alone be able to perform the task efficiently; still more rarely will infantry alone be able to do so, unless indeed it should be favoured to an exceptional degree by the peculiar features of the ground. Outpost duties should, therefore, be practised by both arms in combination one with another, whenever such a course is possible.

Artillery is only attached to the outposts when certain important positions—defiles for instance—are to be maintained.

13. The general disposition of the outposts varies considerably, according to circumstances, and according to the

nature of the ground. The general military position, the distance of the enemy and of the main body, over whose safety it is the duty of the outposts to watch, will materially influence their position.

When troops halt in the evening, with the intention of continuing their march in the morning, it is essential above all things that the roads leading in the direction of the enemy should be occupied.

But when troops are encamped in one locality for some length of time, the measures taken to ensure their security must be of a much more comprehensive nature, especially when the enemy is close at hand (for instance, during a siege).

When outpost duties are being practised in time of peace the various influences which would obtain in war should receive as free an expression and imitation, as circumstances admit; whenever it is intended not merely to teach the formalities to be observed in the performance of outpost duties, these exercises should always be based upon some distinct idea.

14. Outposts are generally placed with reference to the position of the troops over whose security they have to watch, and with special reference to the advanced or rear guard. The position of the enemy and the features of the ground have also to be considered. Outposts should under no circumstances be stronger than is absolutely necessary. Ordinarily speaking they are furnished by the advanced or rear-guards, and consist of from one-fourth to at most one-half of those guards. The main body of the outposts takes up its position in advance of the main body of the advanced or rear-guard.

When the whole body of troops is small, the advanced or rear-guard acts as the main body (Gros) of the outposts; in such cases the officer commanding the advanced or rear-guards also commands the outposts. If the ground is much broken and the line of outposts is of greater extent than about three English miles, it should be divided into several sections, each having its own outpost-commander. It is only in those rare cases in which the troops bivouac in close proximity to the enemy that no outposts are pushed forward.

During a retreat the outposts, which should, if possible, consist of men who have not been engaged, should be ordered to occupy a certain line of country. The troops still engaged with the enemy then retire through the line thus occupied.

When calling in the outposts, prior to any general movement, care must be taken that the security of the troops is not compromised whilst forming for the march.

The outposts should be drawn together at the proper moment and protected by patrols pushed forward for that purpose; they form either the extreme advanced or rear portions of the advanced or rear-guard, or they fall in their proper places on the march, according to the orders they may have received.

15. It results from the two-fold nature of outpost duties and the specialities of the two arms of the service employed upon

them, that measures of the most opposite character are sometimes taken simultaneously for the attainment of one or other of the general objects which have been already mentioned as proper to outposts.

The cavalry will frequently be charged with the duty of gaining intelligence about the enemy, with full liberty of action within its own sphere. It will then advance as far as possible, and follow the enemy, should he retreat. Thus the cavalry secures the chain of outposts from being surprised or harassed.

In such a case the cavalry must keep the infantry outposts, which remain stationary, informed of its movements, and when pushed back seek shelter behind them.*

Generally speaking, the cavalry may be charged exclusively with the duty of collecting intelligence and with the performance of outpost duties during the day, the infantry performing the latter duty during the night. It is always, however, well to send the infantry detachments in the course of the day to the positions which it is intended they should occupy at night, and to place sentries there before nightfall. They thus become acquainted with the nature of the ground, and are better able to shelter the cavalry, in case of necessity.

The officer commanding the outposts takes command of both cavalry and infantry, however much the duties assigned to each may differ.

In conclusion, attention must be drawn to the fact that, even during the night, certain measures which should be adopted to ensure the security of the troops devolve exclusively on cavalry.

16. Bearing in mind the various nature of the circumstances which may occur and the difference in the peculiarities of the ground on which operations may be conducted, it is impossible to lay down rigid rules for the performance of outpost duties. It may, however, be asserted broadly, that *their principal object must always be to prevent the main body from being surprised before it has time to prepare for action;* the most suitable manner in which to attain this object has to be decided in each special case with reference to circumstances.

It is necessary, however, in order to ensure an effective co-operation of the troops engaged on outpost duties, that these duties should be taught in accordance with certain leading principles, and that the forms, signs, orders, &c., should be uniform throughout the army.

The following instructions on the distribution and duties of stationary outposts are to be understood in this sense, and are not to exclude modifications in practice, when special cases render such modifications advantageous. Regulations which endeavour to lay down any more methodical system than this are to be condemned.

---

* When riflemen are available, they will prove of great service in mountainous or wooded country for collecting intelligence, and for holding important positions.

(b.) Regulations on Outpost Duties.

17. Outposts may be divided into three separate and distinct bodies, the whole being under the command of one officer, termed the Commander of Outposts. These are:—

1. The main body (Gros) of the outposts.
2. The in-lying piquets, or supports.
3. Outlying piquets, together with their sentries, posts, or vedettes, patrols, detached posts, &c.

(a.a.) The Outpost-Commander.

18. The outpost-commander receives his instructions from his superior officer, who is generally the officer in command of the advanced guard. These instructions usually include a general account of the position of affairs, the time required by the main body to prepare for action, &c., &c.

The outposts, in taking up their positions, should be careful not to neglect any needful measure of precaution. Cavalry patrols should be sent in advance, to obtain intelligence about the enemy, and watch his movements.

The outpost-commander should ride a short distance in advance of his detachment, in order to gain some knowledge of the nature of the ground. Having done this he chooses positions for his main body, for his outlying piquets, and for the lines to be occupied by sentries by day or night, in so far as his instructions do not bind him to any particular course of action in these respects. The flanks of the outposts may be secured either by natural obstacles, or by being thrown back with special detachments behind them, or by detached guards. The position of the in-lying piquets or supports should then be determined. The main body remains under arms until all arrangements are complete.

When the number of troops employed on outpost duty is considerable, it may become necessary to occupy villages, defiles, &c., (especially on the wings) with whole companies or battalions; if these be in the first line, the outposts must take all necessary measures to provide for their own security.

The officer commanding the outposts must arrive quickly at his decisions, which must be in accordance with the principal general objects to be attained. Small improvements in the positions originally taken up can be made subsequently. Every sentry should be informed of the position of the outlying piquet to which he belongs, and also of the sentries on either side of himself. Cases may occur in which it will be necessary to inform him of the position of the supports or even of the main body. As far as possible the general dispositions which have been made, and all the information which has been obtained with respect to the strength, disposition, &c., of the enemy should be communicated by the outpost-commander to the commanders of the different detachments before they separate.

19. After the positions have been taken up they should be

inspected in detail by the outpost-commander, and altered wherever such alterations appear to him to be necessary. Changes to be effected after nightfall should be made known as early as possible in order that the officer concerned may have the advantage of daylight whilst informing himself on the topography of his future position. The positions for the night are not, however, to be taken up until darkness hides all movements from the enemy's observation.

Cavalry piquets may advantageously be relieved by infantry for the night. The infantry in such cases should have dined and rested previously.

The positions for the night should be examined in the evening by the outpost-commander, who, however, generally remains with the main body of the outposts throughout the night.

When the troops are much fatigued it is absolutely necessary to give strict instructions to the outlying piquets as to the hour at which they are to send out their patrols, and the directions in which they are to proceed.

The main body may occasionally send out a somewhat stronger detachment at daybreak in the direction of the enemy, unless the cavalry patrols should have already reconnoitred the ground as far as possible.

When more extensive reconnaissances are made the other troops must be informed in order to avoid unnecessary alarms.

The outpost-commander should be kept informed by his outlying piquets of all that occurs in the front, and he, in his turn, must send information of the principal occurrences to the officer in command of the advanced guard. The fact of the enemy *not* being found at a certain time or place is information of a negative character which may prove of great value.

In cases of emergency the outpost-commander may send a written report, or he may send the officer on whose responsibility the report is made to report personally to the officer commanding the whole of the troops. But before he does so he should carefully sift the reports he has received, reduce exaggerations, strike out mere suppositions, and verify the facts by personal examination when necessary The sign and countersign are generally given by the officer commanding the whole force. Should they not be communicated in time, the outpost-commander himself will give a sign and countersign to all the detachments under his orders, and care must be taken that they should all be in possession of it before dusk.

(*bb.*)—*The Outlying Piquets.*

20. It is not advisable to assign too large a tract of country to be observed by one outlying piquet. On the other hand, the outlying piquets should not be too weak. From 30 to 40 infantry, or from 20 to 30 cavalry would usually appear to be a suitable strength for one piquet. Occasionally an outlying piquet may

be composed in equal parts of cavalry and infantry, but under all circumstances each piquet should have two or three troopers attached to it, for carrying messages, &c., whenever its distance from the main body or its position at an important point (near a high road, for instance) renders such a course necessary. The employment of these mounted orderlies for any purpose except that of carrying official messages, is strictly forbidden.

Outlying piquets commanded by the same outpost-commander are numbered consecutively from right to left.

21. When the officer commanding an outlying piquet has reached that point on the line which he is to occupy, he places his sentries or vedettes, protected by patrols, and establishes as soon as possible a communication with the piquets on either flank. The distance of the detached posts and sentries from the outlying piquets is usually about 400 paces in the case of infantry, and from 1,000 to 1,200 paces in the case of cavalry; the peculiarities of the ground may, however, demand some modification of this general rule.

One-third of the men are usually employed in patrolling; if the remainder should not be sufficiently strong to furnish three reliefs for the sentries, the number of sentries must be reduced, and the deficiency supplied by increased activity in patrolling.

The sentries are generally relieved every two hours.

It is usually advantageous to place the outlying piquet in rear of the centre of the line of sentries or vedettes belonging to it, and, if possible, near a road, and in such a position that it may be easily found without being visible to the enemy. The position chosen for the outlying piquet should also be such as to admit of free motion in all directions, and of the efficient action of cavalry; it must also be capable of being defended by infantry.

22. In placing the sentries or vedettes the following points ought to be considered:—

1. A good look out, especially in the direction of the enemy, and concealment from his view.

2. Contact with the neighbouring chains of sentries, and, in the case of the sentries of piquets occupying the wings of the position, some protection on the exposed flanks (see II B, par. 18).

3. Good communications with the outlying piquet. It is an advantage when the vedette can be seen from the outlying piquet; if he cannot be seen, a connecting post must be established.

4. Careful observation of the roads leading to the positions of the enemy, of bridges and other defiles, especially by night.

5. A sufficient number of sentries should be posted to prevent the chain from being approached or passed at any point without the person approaching being observed or challenged.

6. Advantage should be taken of the nature of the ground to husband the available strength as much as possible.

At night it is usually advisable to establish the sentries in low-

lying ground, where they will be advantageously placed to perceive the enemy should he appear on any neighbouring heights, or in front of woods or hedges, which can sometimes be successfully maintained against hostile attack by calling in the support of the outlying piquet.

33. No permission should be given to cross the line of sentries except by the main routes which intersect it. The places where the line of sentries may be crossed are designated by the officer commanding the outlying piquet. It is rare that more than one such point of passage occurs in the tract of country guarded by the posts of one outlying piquet. In the rear of the post or vedette stationed on this road is placed an "Examining Guard," which usually consists of a non-commissioned officer and four men. This guard examines every one wishing to pass through the chain of sentries, and gives or refuses permission to pass, or sends in a report, and awaits orders in accordance with the instructions issued in each special case.

24. Circumstances may arise which render it necessary to watch a road situated to the rear or to the flank of the line of outposts. This task is performed by a "Detached Non-commissioned Officer's Post," which either forms a small outlying piquet by itself, or takes up a position as a stationary patrol, securing itself against surprise by other moveable patrols.

25. In order to secure a distant double-sentry of the outlying piquet against being harassed or attacked by the enemy's patrols, the reliefs of that post, reinforced by two or three patrols, may constitute themselves a "Non-commissioned Officers' Post," and take up a suitable position in rear.

26. The officer commanding the outlying piquet, after having taken these measures, proceeds to place the piquet itself (which, until then, has remained under arms), makes arrangements for reliefs, for patrols, &c. He then has the arms piled, or orders the men to dismount, places a single sentry over the arms (in the case of cavalry a dismounted trooper during the day, a mounted trooper during the night), and establishes communications with the neighbouring outlying piquets.

All the arrangements which, if necessary, may be illustrated by a pencil sketch, together with information concerning the enemy, are sent by the officer commanding the outlying piquets to the officer commanding the outposts.

27. The following rules are observed by the outlying piquet:—

(1.) No compliments of any kind are paid to officers who may approach the piquet. The non-commissioned officer or officer in command reports to each superior officer who arrives; the men continue at rest unless the superior officer should address them, but are always kept in readiness to get under arms or to mount at the slightest intimation.

(2.) Cooking, sleeping, eating, and watering horses are done during the day in reliefs. Cooking for the outlying piquets is, however, generally done by the troops in rear.

(3). The piquet must be ready to turn out at a moment's notice at any hour of the night.

(4.) Whether the infantry are to remain in full marching order throughout the night must depend upon the probability or otherwise of an attack.

(5.) The cavalry never take the saddles off their horses for any length of time; the saddles may, however, be removed temporarily, in reliefs. The bits are never taken off except to water and feed.

(6.) Lighting a fire or even smoking is forbidden if the position of the piquet could thereby be revealed to the enemy.

(7.) No noise is to be allowed.

(8.) No man is to be granted leave of absence from an outlying piquet.

Whatever necessaries the piquet may require are taken to the front by the detachments in rear.

28. The officer commanding the outlying piquet is responsible on his honour that the piquet should be found ready for action, if surprised by the enemy. He must do everything in his power to gain time for the detachment in rear to prepare for action also.

When attacked during the night, a daring counter-attack with the bayonet will often prove more effective than musketry fire, which serves rather for giving an alarm. The officer in command should make every effort to obtain information respecting the enemy. Everything of importance is sent by him in writing to the officer commanding the outposts; the exact hour at which the report is dispatched should be invariably stated.

A few cavalry orderlies are generally attached to every outlying infantry piquet, whose duty it is to thoroughly reconnoitre the roads along which the infantry are to march. Reports, however, take time in transmission; it is therefore desirable, in case of attack, to alarm the neighbouring piquets and the main body by musketry fire. Volleys may be fired under such circumstances, even when they can have no effect upon the enemy, as they serve to give the alarm.

Persons conducted by the examining guard to the officer commanding the outlying piquet are examined by him and forwarded to the outpost commander, if necessary.

The officer commanding an outlying piquet always remains with it during the night, and keeps well on the alert, especially about daybreak. During the day it is a part of his duty to inform himself personally of the nature of the ground in all directions, in order to be able to issue local instructions to patrols, and to make dispositions for unexpected emergencies during the night.

Outlying piquets are not permitted to enter houses or farmyards, except by special authority of the commander of the outposts. At night outlying infantry piquets are to be posted

in the position in which it is expected they will have to meet an attack.

A change of position is always delayed until dusk.

Patrolling is, generally speaking, a surer safeguard against sudden attack than an increase in the number of posts; care should therefore be taken that the patrol parties are as far as possible afforded opportunities during the day of examining the nature of the ground which they will have to examine more thoroughly by night.

A patrol should always be in readiness at each outlying piquet to perform any urgent duty that may be required of him; whenever a shot is fired anywhere along the line of advanced posts the patrol would start at once to ascertain its cause.

29. The conduct of the chain of sentries or vedettes to be guided by the following regulations:—

The chain is formed of double sentries (called vedettes in the cavalry), who are numbered for each outlying piquet consecutively from right to left. The sentries always remain in full marching order, with shouldered arms, and are not permitted to sit or lie down. The vedettes remain halted, with their carbines at the "carry," and are not permitted to dismount.

Sentries pay no compliments to officers, and must not allow the presence of superior officers to interfere with their watchfulness. They do not report, but merely reply to questions that may be put to them. As the position of the chain of sentries should be as much as possible concealed from the enemy, no unnecessary movements or noise are to be permitted.

No one is allowed to remain with the chain of outposts, except the officers in command and their staff. One sentry should examine any enclosed ground in the neighbourhood of his post during the day to guard against anyone creeping through; the other sentry, in the meanwhile, remains at his post.

No one is permitted to cross the line in either direction, except by the road occupied by the examining guard. Persons attempting to pass by day or night are ordered to halt by the sentry, and directed, without further examination, to proceed to the road occupied by the examining guard. The sentry stationed there also cries "Halt," and calls out the examining guard, who proceeds as already indicated.

Persons giving an incorrect sign or countersign, who do not halt when ordered, or who do not follow the directions of the sentries, are to be fired on.

Reliefs and visiting patrols passing along the chain of posts must do so by day and, if possible, within the line, and so as not to be seen from beyond it. By day, being known to the sentries, they are not challenged; but at night, one of them approaches the post, and makes known his presence by a preconcerted

signal. The sentry, in a low voice, orders the relief or patrol to halt at ten paces distant, and give the sign. If the sign is correctly given, he himself gives the countersign, at the same time ordering a man to advance. When the latter has approached close to the point of the sentry's bayonet, he is ordered to halt, and give the watchword (Feld-geschrei). Vedettes challenge persons approaching at a somewhat greater distance. The sign and watchword should be given in as low a voice as possible.

The relief takes place in the presence of the non-commissioned officer in command, and all particulars relating to the post are to be carefully imparted to the relieving sentry, by the man coming off duty. The remainder of the party, in the meanwhile, wait in silence in rear of the chain of sentries.

Whatever information the sentries may obtain concerning the enemy is reported to the outlying piquet. If delay might prove dangerous, or a hostile attack is imminent, the alarm should be given by discharging a musket.

30. The instructions which are given to the sentry posted over the arms refer partly to police duties and partly to the security of the piquet. They vary considerably, according to the time of day, locality, and other circumstances, and are given by the officer commanding the piquet, under whose constant and immediate control the sentry remains. This sentry does not pay any compliment to officers. Troopers dismount when doing sentry duty during the day. If the sentry posted over the arms is not deemed sufficient to ensure the security of the piquet, other sentries must be placed in rear or on the flanks.

cc. Patrols.

31. Patrols of two, or, if possible, three men, are sent beyond the chain of outposts to examine the ground in front, and to procure information about the enemy.

During the day, and on favourable ground, this service is best performed by cavalry; at night, in an inclosed country, or when the enemy is very near, infantry patrols are to be preferred; they should, if possible, be in light marching order, and should not generally advance more than half a mile from the outlying piquets.

If circumstances render it desirable to push infantry patrols further in advance, they should be strengthened, and placed under a trustworthy leader. In such cases cavalry orderlies should accompany the patrol.

When the enemy is near, though not in the immediate vicinity, and an attack is expected, it is advisable to push forward cavalry patrols for more considerable distances along the roads leading to the enemy's position.

Patrols contribute largely to the security of outlying piquets, if their duties are performed with judgment, and if intelligent men are selected for the performance of them.

The most indispensable qualities of a patrol are, a quick eye for country, untiring energy, presence of mind and cunning to enable him to get out of any difficult position in which he may find himself placed.

The patrols before starting receive their instructions from the officer commanding the outlying piquet, and report to him on their return.

They should move slowly and without noise, and should halt frequently to listen. They must pay attention to the features of the ground, of which they should be able to give a description, if required to do so. They should avoid all engagements, and take particular care that they are not cut off, returning, if possible, by a different road from that by which they advanced. Generally speaking, a certain hour should be fixed for their return; even large infantry patrols should not be permitted to go more than a mile beyond the chain of posts, save in exceptional circumstances, and then by special order. Cavalry patrols may go further, and no limit, which shall be generally applicable in all cases, can be laid down as to distance to which ther may proceed.

When remaining for several days in the same position, care must be taken to avoid regularity in the time at which patrols are sent out, as well as to vary their beats occasionally.

32. Visiting patrols, of two men each, pass at intervals along the chain of outposts, to obtain information and gather reports. They should satisfy themselves that the sentries are standing in their places. The best time to send out these visiting patrols is between the hours of relief, as the relief itself affords an opportunity of inspecting the posts. These patrols should also enter into communication with the posts of the neighbouring piquets.

33. Large patrols are not only intended to reconnoitre the ground, but also to keep off the patrols of the enemy, or even to drive in his line of sentries or vedettes, thus forcibly raising the screen, with which the enemy has surrounded himself. In cases where stratagem is of no avail, recourse may be had to force, in which cases action should be rapid and decisive. At the same time they are to neglect no precaution which might enable them to surprise the enemy without exposing themselves to surprise or ambuscade. If the outlying piquet is not strong enough for the execution of such an enterprise, men for this purpose should be furnished from detachments in rear. These patrols receive their special instructions from the the officer commanding the outlying piquet, who is, or should be, in possession of the best information available as to the position of affairs; on their return they report to him.

dd. Relief of the Outlying Piquets.

34. Outlying piquets are generally relieved at daybreak, and occasionally, in exceptional cases, a few hours before dusk; the relief moves silently and with due precautions.

The relieving piquet forms up on the flank of the piquet which is about to come off duty. The posts are relieved by the two officers conjointly; the officer coming off duty communicates to the relieving officer everything of importance in connection with his position, &c.

Patrols formed of men of the old and the new piquet are sent out together, so that the latter may become acquainted with the nature of the ground.

When the relief takes place at daybreak, the positions for the day are at once taken up.

As a measure of precaution the hour of relief and the name of the officer and regiment of the relief, ought previously to be communicated to the piquet which is to be relieved.

ee. Inlying Piquets.

35. Inlying piquets may be placed between the outlying piquets and the main body of the outposts, when the peculiar features of the ground or the great distance between the main body and the outlying piquet renders such a course desirable.

They are intended to support the outlying piquets, or to occupy important positions, and they may be posted, either permanently or temporarily, that is, for a single night. A sentry should be placed over the arms, and the piquet should secure itself by posts or vedettes, according as circumstances render such a course necessary. Communication with the main body of the outposts and the outlying piquets in front must be maintained, and an arrangement should be entered into with the latter as to the manner, &c., in which support is to be afforded to them.

The regulations which have heen already laid down for the guidance of the outlying piquets apply generally to the inlying piquets, with this exception, that the officers commanding these latter may grant greater indulgences to both men and horses, in proportion as they are less exposed to sudden attack.

ff. The Main Body of the Outposts.

36. The main body of the outposts forms a general support to the advanced posts, and at the same time a reserve, from which any of the detachments in front may be reinforced.

It is placed under the immediate orders of the commander of the outposts, and must be kept in readiness near the point at which serious attack is to be expected, and in such a position that it may readily be moved to any quarter that may be threatened.

When artillery is attached to outposts stationed in a defile, the guns are unlimbered and are prepared for action; in all other cases they remain limbered up, as near to the main road as possible, but never in an enclosed space.

The main body of the outpost bivouacs, surrounded by camp guards. No bugle-sound of any kind is to be given in a bivouac of this kind, except the alarm.

The commander of the outposts will determine in each special case what degree of readiness for action is indispensable under the circumstances.

The infantry always keep on their belts and accoutrements; the cavalry and artillery horses are always kept saddled and harnessed. Cooking, eating, watering horses, or changing saddles, are only permitted during the day, and then only in reliefs.

In case of an alarm being given by the advanced posts, the main body gets under arms, and, if necessary, opposes or attacks the enemy.

37. The chief object of the outposts is not so much to gain any success in the field, as to gain time; they should not, therefore, seek to bring about an engagement. Officers in command of outposts should remember that they must be prepared to make any sacrifice in order to obtain the necessary time for enabling the troops in their rear to get under arms, and that it is absolutely necessary that they should detain the enemy until this can be accomplished.

C. Duties of Orderlies, &c.

38. Important reports should always be made in writing, if time and circumstances permit; it is advisable that reports of a less important nature should be usually written, especially when the bearer of the report cannot be relied upon to report correctly from want of intelligence or any other cause, or when there is not sufficient time to explain to the bearer thoroughly the exact nature of the verbal report which he is to make.

The person who signs the report is of course answerable for its correctness. He must therefore carefully weigh in his own mind every expression of which he makes use. The style of writing should be brief and condensed, like that of a telegram, and a clear distinction should be made between information gathered from personal observation, of the correctness of which the writer is absolutely certain, and information obtained from the reports of others, or mere suppositions. He must endeavour to form a calm and collected judgment on passing events, giving to each its true relative importance, and avoiding all exaggeration on the one hand, or want of due appreciation of the importance of any event, on the other hand. He should, if

ADHESIVE ENVELOPE.

12½ Centimetres = 4·9 inches.

8 Centimetres = 3·1 inches.

To

.....

.....

Pace.....

Left at.....

Arrived at.....

This Envelope is to be returned to the Bearer.

NOTE.—The sheet is to be folded once.

12 Centimetres = 4·7 inches.

Despatched the....th.....187.....*at*.....*M*

From

15 Centimetres = 5·9 inches.

possible, determine by personal inspection the correctness of any reports he may have received.

It may frequently be of importance to know that no change has taken place in the position of affairs within a certain period, or that nothing has been seen or heard of the enemy. The officer whose duty it is to report must constantly bear this in mind, and unless definite instructions have been issued to him on the subject he should act according to the best of his judgment.

39. The following remarks apply to the form in which a report should be sent:—

The report is to be written distinctly on thick paper, so as to be legible in a bad light.

The place and date (in hours and minutes, avoiding the term "day" and "night," and always using a.m. and p.m.) of the despatch are to be written in the upper right hand corner.

In the case of a report sent by a staff officer it is usual to place the report in an adhesive envelope, and to indicate on the outside the pace at which the orderly is to proceed, as well as the time of his departure.

The envelope is returned to the orderly after the hour of receipt has been noted on it.

In order to facilitate the introduction of these forms during field manœuvres and in war, cards, and envelopes, as shown in the accompanying diagram, are prepared.

All written reports made in the course of field manœuvres are sent in this manner, and are subsequently collected and appended to the account of the manœuvres, if any such account is compiled.

Pencil reports should be re-written in ink if it is intended to preserve them.

40. The following remarks apply to the dispatch of reports, orders, &c.

It may occasionally become necessary in important cases, or when the roads are unsafe, to forward orders in duplicate, or even triplicate by different roads. In such a case it may be desirable to send one, or all the reports verbally.

It will sometimes be as well to communicate the contents of the report to the bearer of it, in case he should lose it or be compelled to destroy it, if his capture by the enemy seems imminent.

When orders or reports are sent in duplicate, no mention of the fact should be made in the report itself, as a knowledge of it would only be of use to the enemy, should the report fall into his hands.

If the safe delivery of the report is of great importance, and the distance to be traversed is considerable, two orderlies may be dispatched with it. Officers riding long distances, especially at night, should, as a rule be accompanied by an escort. This must usually be the case in the dispatch of orders from the superior military authorities (generals of

division and upwards), who will constantly have occasion to send their orders by night.

In war it may occasionally be advisable to send an escort of infantry on wagons to accompany officers carrying reports by night to a considerable distance.

When a long line of communication is to be used for any length of time, a number of posts (Relais-linie) may advantageously be established along it. These posts, which usually consist of infantry non-commissioned officers, and from three to nine troopers, are stationed at intervals of from three to seven English miles. Each post should be divided into three reliefs. The first relief places a sentry to watch the road, and must be ready to start at a moment's notice; the second relief may take out bits and feed their horses; the third relief may be permitted to take the saddles off their horses. These posts are relieved according as circumstances render such a course necessary. They should receive orders, in the event of no despatches passing through their hands for some time, to ascertain from time to time whether the adjoining posts still remain in their positions.

The non-commissioned officer commanding the post must keep an account of all letters which have been forwarded by him, together with their address, time of arrival, and the names of the orderly who brought, and the orderly who proceeded with each despatch. He should furnish the orderlies whom he dispatches with a form of receipt to be filled up at the next station.

The position of these posts should be marked both by day and night by some conspicuous sign.

With respect to pace, the following abbreviations are to be used on the envelope:—

† denotes alternate trotting and walking the German mile (about four and a-half English miles) being done in forty-five minutes.

†† denotes "speed." At this pace the mile should be done in half-an-hour.

††† denotes "express speed," that is to say, the orderly is to ride as fast as he can.

In those exceptional cases when verbal reports or orders are sent, the party dispatching the reports should cause them to be repeated by the orderly before departure, so as to make sure of his having correctly understood them. He also makes a note of the place and time of the orderly's departure.

The bearer of a verbal report should also be able to state the name of the place from which he has come, and the hour of his departure; he should return as soon as possible after he has delivered his message.

III. MARCHES.

1. The rules to be observed by troops on the march depend partly upon the measures necessary to be taken against the enemy, and partly upon the necessity of sparing the troops themselves from any undue fatigue. The two objects to be attained are often irreconcileable the one with the other; in such cases the commanding officer must decide what must be done for tactical reasons, and what ought to be done on other grounds.

The rules given below are modified more or less by these considerations :—

Troops are only called upon occasionally to fight in the course of military operations, but almost every day they are required to march considerable distances.

The success of almost every enterprise depends upon the march being conducted with regularity. The arrival of a body of troops in good condition, is frequently decisive of success, and it is therefore the first duty of every commanding officer to ensure the arrival of the body of men under his command at their destination in good order, and at the right time.

2. All troops, and especially detachments composed of all arms of the service in combination, should, therefore, be frequently practised in marching to prepare them for what will be required of them in actual war.

Continued route-marching in time of peace does not, however, always produce the required result of preparing troops to execute unusually long marches in time of war.

The cavalry derive the utmost benefit from route-marching in time of peace, for the establishment of horses on a peace establishment is nearly the same as on a war establishment. If a horse has been accustomed to do long distances in time of peace, he will be able to do the same in time of war.

The case, however, is different with respect to the other arms of the service, and especially with regard to infantry, upon whose pace the rate of progress of every mixed body of troops must depend.

The men of each mobilised battalion belong in great part to the reserve, and the power of marching, which continuous training has secured to one portion of the battalion, does not extend to the whole body. Some time will always elapse before the whole battalion becomes accustomed to bear the fatigue of long marches.

3. It is an essential part of military training to accustom the soldier to surmount obstacles and undergo privations.

Long marches in connection with field manœuvres and constant practice in outpost duties afford the best opportunities for training the soldier in this particular respect; they give him an idea of what he can do and also of what he will be

called upon to do in real war, and accustom him to regard a long march as nothing unusual.

Practice in marching should, if possible, be always carried out with reference to some real or supposed manœuvre. The following are the points specially deserving of attention:—

(*a.*) An order of march suitable to the object to be attained should be laid down.

(*b.*) A regular pace should be preserved throughout the march.

(*c.*) Halts should be made at the proper hours and in suitable localities.

(*d.*) Strict discipline should be maintained on the march, which must not, however, be rendered unnecessarily irksome.

(*e.*) Careful attention should be paid to the health of both man and beast.

If the marches be continued for several days consecutively, the task imposed being slightly increased on each successive day, the most beneficial results may be expected.

4. (*a.*) The "order of march" prescribes the order in which the different bodies of troops are to follow each other, and their special formations, particularly the width of front.

The "order of march" is primarily dependent on the "order of battle." The front of the column should, however, in all cases be as wide as possible. The length of the column is thus reduced, or larger intervals may be left between the different bodies of troops.

The width of the front is, however, naturally dependent upon the width of the road; a space must also be left to allow superior officers and orderlies to pass by the column.

In time of peace also, no stoppage of the public traffic should be caused by the march of troops.

5. (*b.*) The pace of the head of a column regulates that of the entire body. It must above all things be *regular*, for otherwise confusion is caused in rear.

The pace most suitable to cavalry and artillery is faster than that of infantry. An unnecessary admixture of the three arms should therefore be avoided as much as possible, or cavalry, when marching in a mixed column, should be made to regulate their pace by that of the infantry.

Cavalry or artillery marching alone will find it advantageous to trot occasionally.

As a general principle the pace of the head of a column should be reduced in proportion to its increase of depth. On good roads, and in tolerably fine weather, the head of the column should march at the rate of at least 500 paces in five minutes.

6. (*c.*) Occasional halts on the march are necessary to allow the men to fall out, and rest.

A short halt should be made about three-quarters of an hour after starting. A halt of half or three-quarters of an hour may be made when the longer half of a march not exceeding 14 miles

has been accomplished. When the march is over 14 miles, a halt should be made at least every two hours, at the discretion of the commanding officer.

Circumstances may modify these rules; for instance, when a large body of troops starts from a camp or bivouac to proceed by the same road, the head and tail of the column are so far apart that a simultaneous halt affects different parts of the column very differently.

In order to spare the men as much as possible, no unnecessary movements which take time should be executed.

Large bodies of troops do not, therefore, form up before resting, but simply halt and rest in their order of march along the sides of the road, leaving the roadway clear.* This regulation need not interfere with the formation of detachments in line or otherwise at the side of the road, should circumstances render such a formation desirable.

In selecting halting places the weather and the nature of the ground must be taken into consideration; during great heat a shady wood, and during a gale of wind, a hill-slope to leeward, or other position where shelter is to be obtained, should be selected.

Long halts should not be made in a village. In the case of a long column, where, owing to its length, it is impossible to prevent a portion of the column being in the village when the halt is ordered, that portion which, if the order of march were preserved would occupy the village, may be formed up beyond it.

During war, troops on the march should not halt in a defile, but continue the march, and halt after they have debouched from it.

7. (*d.*)—The enforcement of strict discipline on the march is the best security for the march being properly executed. Officers commanding are therefore required to maintain strict discipline on all marches be they long or short, so that its maintenance may become a second nature with the men.

Officers commanding companies, &c., are personally responsible for the discipline of their companies, with which they are always to remain.

The officer in command will use his discretion as to allowing the men to march at ease; but any slight freedom taken without leave should be severely punished, as being detrimental to discipline.

In the execution of long marches, it is essential that the length of the column should not be much greater than that prescribed by the drill regulations. The infantry should, therefore, not march in file, as the normal depth of a column cannot be adhered to in this formation when the men are permitted to march at ease.

---

* Infantry must not pile arms on the road. Artillery and train are only permitted to halt on a road in column of route.

The following intervals are usually left on the march:*—

Between companies, 10 paces;

Between battalions, squadrons, and batteries, 20 paces;

Between regiments of infantry or cavalry, divisions of artillery or of train, &c., 40 paces;

Between brigades of infantry or cavalry, 80 paces;

Between divisions, 300 paces.

Any permanent increase to these intervals is to be avoided, but they need not be strictly adhered to under all circumstances. The interval in rear of each body of troops is in fact an allowance intended to enable each body to open out slightly without increasing the total length of the column.

8. (*e.*) Even a well-disciplined body of troops can only be maintained for any length of time in a thorough state of fitness to march, by avoiding every exertion not absolutely necessary, and by the strict enforcement of sanitary measures on reaching quarters.

It is essential that the hour of departure of troops marching to a rendezvous, or of numerous corps marching along the same road, should be carefully regulated. Nothing is more fatiguing to troops than purposeless halts, occasioned by arriving too soon, or by having started too early. Under no circumstances, should the troops march off earlier than is necessary, and the meeting of the different bodies of troops should always be arranged to take place without interrupting the progress of the march to the front.

In issuing orders for the march, the depth of columns, the pace of the various arms, and the distance to the rendezvous, must, therefore, be carefully considered.

Generally speaking, the hour of departure should not be too early. Infantry should not, as a rule, start before daybreak (in summer not before 5 a.m.); mounted troops, if possible, an hour later. Care should also be taken that the horses are not saddled or harnessed earlier than is necessary.

Irrespective, however, of the immediate necessities of war, the weather, especially if it be very hot, may render an earlier start desirable. In such a case, it is advantageous to divide the day's march into two portions, and to halt in the middle of the day.

The men should be spared all unnecessary exertion. The colours, for instance, which, when in garrison, are brought daily to the residence of the officer commanding the regiment, remain, as a rule, with the officer commanding the battalion when on the march.

The men may be allowed to march at ease and in loose order. Honours only are paid in garrisons or in towns where troops are quartered; step should also be preserved in marching

---

* Troops marching in the immediate vicinity of the enemy must, however, close up as much as possible.

through towns. On the arrival of superior officers the men may continue to smoke, and may remain lying down on the ground; the officer in command alone reports.

Officers are to enforce the greatest possible ease and comfort in dress.

Soldiers on the march may be permitted to drink, but they must not be allowed to halt and rest immediately after drinking. They are therefore to be allowed to drink only during long halts, or when the march is to be at once continued, and when the permission to halt and drink will not entail a permanent increase to the normal length of the column. In passing through a village, vessels containing water may be placed in readiness along the roadside.

Great attention should be paid to the clothing of the men and to the equipments of men and horses, especially to the shoeing of the latter. Foot-sore men, and horses with damaged hoofs or sore backs, decimate the ranks. Casualties on these accounts can only be reduced by careful attention to the pace of both men and horses, and to the seat of the mounted men, especially towards the end of a day's march,—by executing all necessary alterations and repairs during halts or in quarters (especially on days of rest), and by the enforcement of severe punishment in cases of culpable carelessness or neglect. The number of casualties on the march affords a fair criterion of the state of the interior economy and discipline of the troops and of the care which officers commanding companies, squadrons, &c., bestow on their men.

9. Almost all the points indicated above can be attended to without special practice in marching, but the short term of service of the men renders it absolutely necessary that marching should be practised in connection with other field exercises.

The march of small detachments affords special opportunities for accustoming the men to the observance of the strictest discipline.

The annual concentration of troops for field manœuvres offers the best opportunity for marches of several days' duration by bodies of troops composed of all arms of the service. In these cases the distances to be performed daily should be rather shorter than usual. Five days, for instance, may be allowed to march a distance which might be performed in four; but the march should always be made in accordance with the execution of some preconceived manœuvre, and outpost duties, &c., should be practised. The advanced guard of a pursuing, or the rear-guard of a retreating, enemy may, in such cases, be represented by a battalion and one or two squadrons.

IV. BIVOUACS.

A. General Considerations.

1. Troops are bivouacked in time of war only when it is necessary to keep them ready for immediate action. In all other cases the villages in the neighbourhood are utilised as far as possible, even in those cases in which troops are to be kept concentrated.

In selecting sites for bivouacs the convenience and comfort of the troops must be consulted in so far as immediate readiness for action, which is essential, admits. Care should be taken to obtain some sort of shelter against wind and rain; this may frequently be done by establishing the bivouacs on the outskirt of villages or woods, the infantry being sometimes cantoned in the villages themselves. Damp marshy ground should be avoided as much as possible.

In the arrangement of camps, when the men are in huts or under canvas, the rules laid down for the disposition, &c., of bivouacs are to be observed as far as possible.

It is very desirable that the various articles necessary to the men, and especially water, should not have to be fetched from too great a distance, and that the horses should have not to be taken far to be watered.

2. It is not considered advantageous to bivouac on the very ground on which it is expected to engage the enemy. The bivouac had better be placed in rear of the position, so that a retreat will not be necessary before coming into action, but at the same time it must not be too far in rear, as the certainty of being able to occupy the position quickly, even if surprised by the enemy, must be secured.

It is essential that good communications should exist not only from the bivouac to the position, but also in all other directions in which it may become necessary to march; if not already existing, they should be made.

It is an advantage if the front or the exposed flank of the bivouac is protected by a natural obstacle, or, at all events, by ground well capable of defence.

3. In the bivouac of large bodies of troops, the order of battle should be adhered to as far as possible. Care must at the same time be taken that the infantry, which can prepare for action quicker than the other arms, is placed in the positions most exposed to attack. Cavalry and artillery should be placed in positions where they are covered by infantry, or are protected against sudden attack by natural obstacles.

4. The minimum spaces absolutely necessary to each bivouac, exclusive of what may be required for camp guards, &c., are as follows:—

(*a.*) *Battalion of Infantry.*—Front of about 200 paces if the

battalion is on a war establishment, or 100 paces if it is on a peace establishment. Depth about 360 paces.

(*b.*) *Regiment of Cavalry.*—Front (including alarm-post), 200 paces. Depth, about 260 paces.

(*c.*) *Field Battery.*—Front, about 100 paces on a war, or 60 paces on a peace, establishment. Depth, about 270 paces on a war, and 170 on a peace, establishment.

(*d.*) *Battery of Horse Artillery.*—Front, 100 paces on a war, 60 paces on a peace establishment. Depth, 270 paces on a war, 190 paces on a peace, establishment.

(*e.*) *Company of Pioneers.*—One-fourth the space required for a battalion of infantry.

(*f.*) *Division of Train.*—According to its strength, the space occupied by twelve or eighteen wagons being about equal to that taken up by a battery on a war and peace establishment respectively.

Intervals of 10 paces are left between the battalions of the same regiment; 20 paces are left between regiments of infantry or cavalry, between batteries, or between detachments composed of different arms of the service.

If the strength of the troops and the features of the ground admit of such an arrangement, the bivouac is formed in one line; if not, two lines are formed, an interval of 150 paces being left between them, measured backwards from the kitchens of the infantry or artillery, to the front of the second line; in the case of the cavalry 50 paces are left between the wagons of the first line and the front of the second.

No latrines are permitted between the two lines.

Modifications in the position of the latrines and kitchens, suggested by the direction of the wind, may be made by permission of the officer commanding the encampment.

B. Duties in Bivouac.

5. In all large bivouacs, the officer commanding-in-chief, unless he wishes himself to fulfil the duties of commander of the bivouac, appoints a deputy,—generally the senior officer on the ground (a general or colonel). This officer is entrusted with the interior economy of the bivouac, in so far as the maintenance of order is concerned; he takes all necessary measures for rendering the bivouac secure. He himself bivouacs in front of the centre of the whole camp, his position being indicated by some conspicuous sign.

6. The following officers are required to carry out the daily duties of the bivouac:—1 field officer per regiment of infantry; 1 captain by battalion of rifles, pioneers, or other battalion acting independently; 1 captain per regiment of cavalry and division of artillery; 1 lieutenant for each company, squadron, battery, train, column, &c., acting independently.

These officers are not allowed to take off any portion of their

service-uniform during their term of duty; they receive their instructions from the officer commanding the bivouac, to whom they report themselves immediately after the arrival of the troops at the bivouac. They assist him generally in the execution of all duties, but especially as regards the regiments, &c., to which they belong, whose sentries they post and visit by day as well as night.

7. Officers are appointed to go the rounds, in addition to the officers of the day, in the proportion of one captain and one lieutenant to each regiment of infantry, one lieutenant to each independent battalion, regiment of cavalry, or division of artillery. These officers visit the sentries belonging to their own regiment or corps. They report themselves to the officer of the day belonging to their own regiment or corps immediately after their arrival in the bivouac.

Two non-commissioned officers per battalion are also told off, who remain as a rule with the battalion guard, and assist the officer of the day in the duties incident to the camp police. They take care that all cooking is done in the kitchens, that no noise or disorder takes place amongst the suttlers, that perfect quiet is preserved after tattoo, and that all fires are extinguished before leaving the bivouac.

8. Camp-guards* are established to preserve the camp against intruders and against surprise by the enemy, and regimental guards for the preservation of order within the camp itself.

The former are generally furnished by the infantry or rifles, the latter by each regiment or corps, in sufficient numbers to meet its own requirements.

Cavalry, when doing duty as camp-guards—a duty which they only perform under exceptional circumstances—remain mounted.

On arrival in camp, the officer commanding the camp at once places the camp-guards in such a manner that they surround the whole of the bivouac at a distance of from 200 to 300 paces from it. In placing these guards attention must be paid to the natural features of the ground; all points capable of defence, hollow ways and roads, must be occupied by guards.

As a general rule camp-guards should be placed at intervals of not more than 500 paces from each other; every alternate battalion of infantry will thus furnish a guard.

The officer commanding the camp is authorised to diminish the number of camp guards in certain cases; for instance, when the enemy is at a great distance.

The inlying regimental guards are posted by the officers of the day. Their positions are shown in the illustrations accompanying the next chapter.

9. Each camp-guard usually posts a sentry over the arms

* The camp-guards placed on the flanks are called "flank-guards," those in rear, "rear-guards."

and two double-sentries about 100 paces in advance, one to the left and one to the right of the guard, thus forming a continuous line of sentries which none can pass without being observed.

A camp-guard ought, therefore, as a rule, to consist of:—

1 non-commissioned officer.

2 lance-corporals, for relieving sentries and for carrying reports.

1 bugler or drummer.

16 privates (including one fatigue-man).

Circumstances may render it desirable that an officer should take the command of the camp-guard.

The regimental guard* furnishes certain sentries, of which mention will be made in the next chapter, and any others which special circumstances may render necessary.

10. The regulations on outlying piquets apply to the conduct of camp-guards, and their sentries. The sentries, however, in the case of the camp-guards, are permitted to take off their packs. They should stand with their backs to the camp. Prisoners and suspected persons are taken to the nearest guard in rear. The line of posts may not be crossed except where the camp-guards are stationed. Officers and detachments from the camp are permitted to cross the line of posts during the day. All others,—and by night every one, except officers on duty,—are directed to proceed to the guard, where they are examined before being allowed to proceed. The non-commissioned officer in charge of the guard either decides as to whether permission is to be granted to pass the line of posts, or applies to the officer of the day for instructions.

The sentries and guards watch the ground in front of them carefully, and also notice anything that may happen at the outposts, if the distance admits of their doing so; if necessary, patrols are sent out to obtain definite information; any unusual occurrence should be at once reported to the officer commanding the camp.

11. The regulations for ordinary garrison service apply to the inlying guards and posts; the latter are always occupied by dismounted men.

12. The further arrangements of the bivouac within the space allotted to it, such as the arrangements for bringing water and other matters of detail are left to the discretion of officers commanding battalions or corps, &c.

The officer commanding the camp, however, makes the necessary regulations as regards watering when the same village well, or watering place, has to be used by men belonging to different regiments. He also, if necessary, takes measures to secure the safety of such places against attack from the enemy.

---

* Called "colour-guard," by the infantry or cavalry, "park-guard" by the artillery.

13. The "sign" and "watchword" are communicated before dark to the different regiments or corps, guards, and to officers and non-commissioned officers on duty, through the officers of the day. The officer commanding the camp gives the sign and watchword, if it has not been decided by superior authority. He causes piquets to be posted, if necessary, and other measures to be taken for the security of the camp, and determines whether and at what time tattoo is to be beaten.

14. If the bivouac is so far from the enemy that its existence would not be betrayed by the sound of drums and bugles, the general commanding or officer in command of the camp orders the tattoo to be beaten or sounded by all the troops in succession, beginning on the right of the first line; in such cases the bands are also permitted to play. The companies fall in near the alarm-post for evening prayers

Reveillé is sounded or beaten by the drummers or buglers of the guard, if the distance of the enemy from the camp renders it prudent to be sounded at all. The hour of reveillé is determined by the officer commanding the camp, who communicates it to one of the camp guards—generally to the right flank guard—which sounds first, the others following in succession.

C. Arrangement of the different Arms of the Service in Bivouac.

(a.) *Infantry.**

15. Infantry bivouacs, as a rule, in company column, the 1st company in rear of the 2nd, the 4th in rear of the 3rd. This form of encampment is always adopted in the case of an advanced or rear guard, or when it is necessary to hold the troops ready for immediate action. Under other circumstances they bivouac in a column of three ranks formed on the two centre divisions (Kolonne nach der Mitte in drei Gliedern.)†

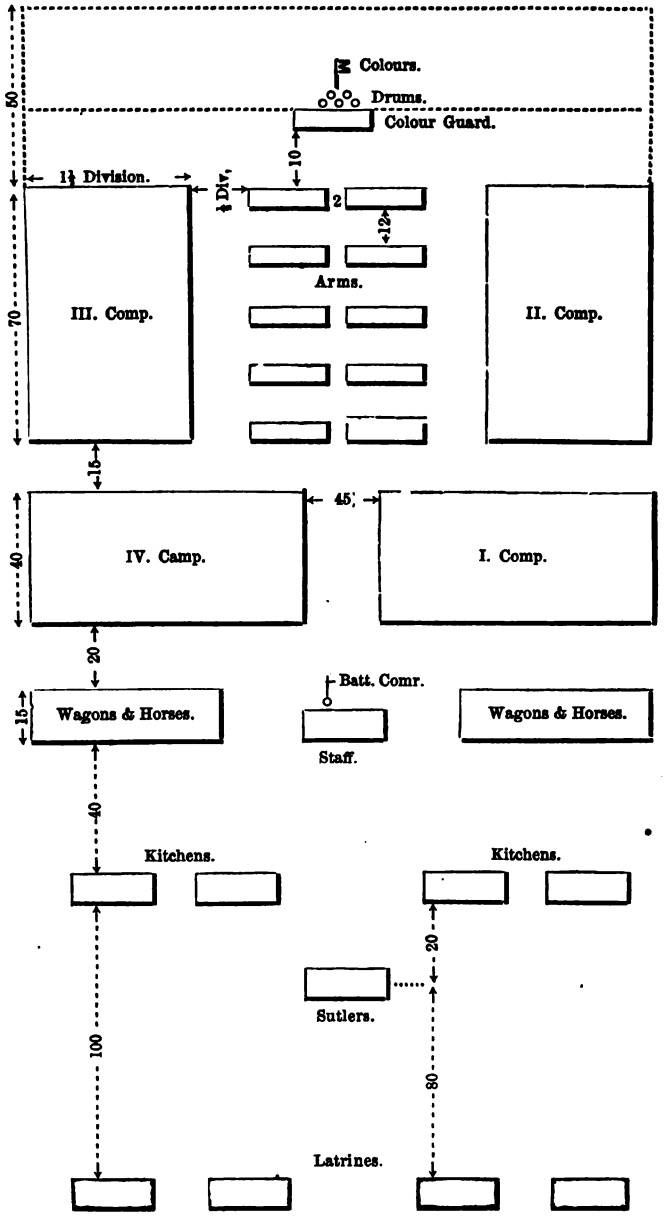
---

* The regulations for the infantry apply also to rifles and pioneers.

† It will be borne in mind that the Prussian battalion consists of four companies of 250 men each, and that each company consists of two divisions (Züge). The "column of three ranks formed on the two centre divisions" to which allusion is made above is, in fact, a double column of divisions (answering to our companies) formed on the two centre divisions (the 4th and 5th), that is to say the left division of No. 2 Company, and the right division of No. 3 Company. This is the Prussian "column of attack" (Augriffs-Kolonne), with the exception that, whenever this formation is adopted on service, the divisions of skirmishers consisting of the men of the 3rd rank, are invariably either formed in rear of the column in four separate divisions of two ranks each, or are dispersed as skirmishers.

The form of encampment prescribed in the text for an advanced and rear-guard, differs from the above in that each company forms an independent company column of three divisions each of two ranks, the rear division being composed of the men belonging to the 3rd rank of the two leading divisions. The whole battalion forms

Bivouac of a Battalion of Infantry.



Distances in paces.

One Zug = ½ Company.

To face p. 37.

The battalion, having adopted one or other of these formations, moves to the place assigned to it. The band does not play. The officer commanding the battalion then gives the word "Guards to the front;" upon which order the men pile arms, hang their swords, accoutrements, and helmets on their rifles, and put on their forage-caps. The adjutant makes arrangements with the serjeant-majors, for fatigue-parties, &c. The officer commanding the battalion then gives the word:—"Right and Left—Turn!—March!" when the companies move to the places assigned to them, and the other arrangements shown on the accompanying diagrams are carried out.

16. The guards, and officers, and non-commissioned officers required for camp duties should have been previously detailed.

As a rule, each battalion details the following men for guard:—

3 sergeants.
5 corporals.
3 drummers or buglers.
38 privates.

These are divided into one regimental, and two camp-guards.

At the word of command, "Guards to the front," the men who have been warned for this duty, march 30 paces to the front; the guards are then formed by the non-commissioned officers, and the orders of the officer of the day are given.

The regimental guard for each battalion consists usually of:—

1 sergeant.
1 corporal.
1 drummer or bugler.
6 privates.

This guard usually furnishes one sentry over the wagons, who is posted near the quarter of the officer commanding the battalion, and one sentry over the colours and arms. This guard may also be required to furnish a sentry over the quarter of the officer commanding the regiment.

The officer sends any men of the guard not required for duty back to their companies; they pile arms on the outer flank of the divisions to which they belong, and must be prepared to act as patrols, piquets, &c., if required, but are in the meanwhile available for other ordinary camp duties.

(*b.*) *Cavalry.*

17. Cavalry always bivouacs in column of squadrons. The

---

a double column of divisions on the two centre divisions, whilst each company forms an independent company column.

The only difference between the two formations is in the position of the men of the 3rd rank; in the one case they remain in the 3rd ranks of their respective divisions; in the other they are formed in divisions, each of two ranks, in rear of the company to which they belong. (TRANSLATOR.)

regiment, in the first instance, forms column of squadrons at half intervals in front of the intended bivouac.

The officer commanding the regiment then gives the word:—

"Rear Rank—About—March!"

When the rear rank of each squadron has approached to within 10 paces of the front rank of the squadron in rear, it is ordered to halt.

The rear rank of each squadron in moving to the rear inclines to the left. The front rank of each squadron, at the same time, opens out to the left, until it occupies a front equal to the length of front of 1½ squadrons. The whole prepare to dismount without any further orders.

18. After the order to dismount has been given, the men take off their helmets, pouches, side-arms, cuirasses, &c. Each man then sticks his sword into the ground, three paces in front of his horse's head, the hilt being turned to the front. The head-dress is then placed on the sword, peak outwards. The pouch is hung over the head-dress, front outwards. Gloves are placed inside the head-dress. The cuirass is placed upright, leaning on the sword, breast-plate to the front. The lance is stuck into the ground, half a pace to the right of the sword.

The picket pegs are placed in the ground close to the horses' heads and at equal intervals, and the picket-rope is attached to them. The bridle is placed on the ground to the right of the sword, the head-stall turned towards the horse. Lancers hang their bridles to the slings of their lances. If the men are ordered to take their saddles off, these latter are placed on the ground, three paces in rear of the horses, pommels turned towards the horses. The carbine remains attached to the saddle. The blankets are placed over the saddle, folded and ready for saddling.

19. Immediately after the men have dismounted, the junior officer of the regiment and a non-commissioned officer take the regimental standard to the front, and plant it in the ground. At the same time the regimental guard marches to the place assigned to it under the command of the orderly officer, who posts the necessary sentries. The following are usually posted:—

One sentry over the regimental standard and arms.

One sentry over the quarter of the officer commanding the regiment.

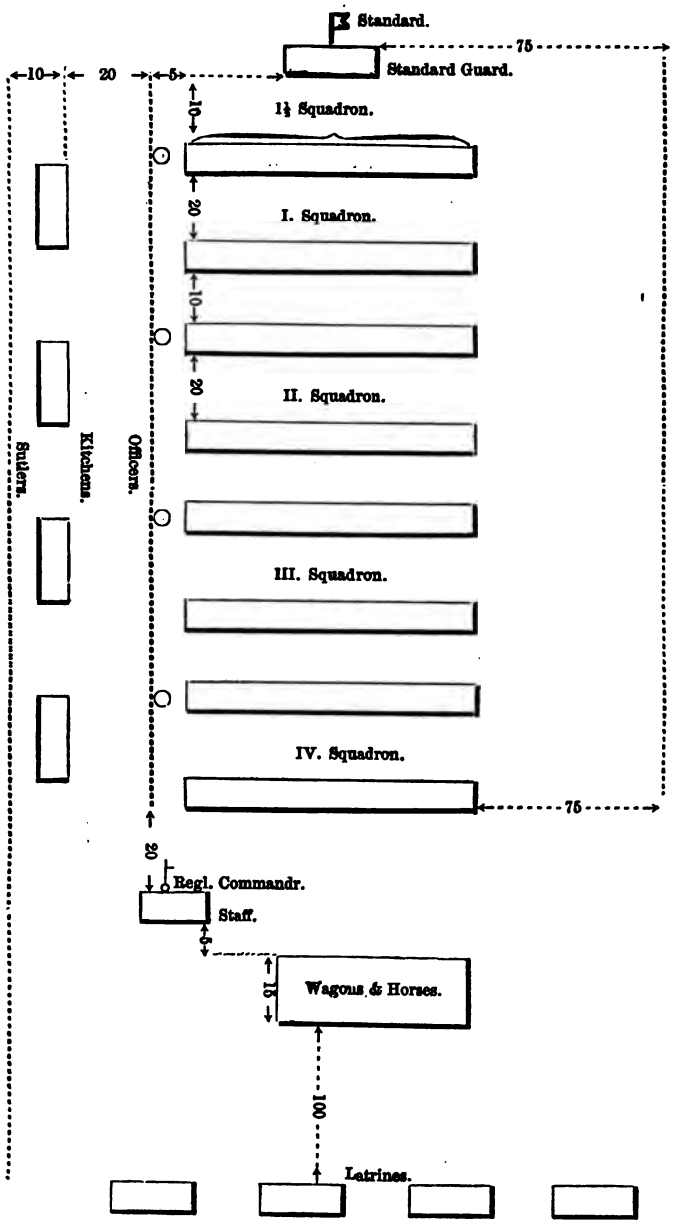
One sentry over the wagons.

The regimental guard should, therefore, consist of one corporal, one trumpeter, one lance corporal, and nine men.

If a camp-guard has to be furnished, it is posted by the officer on duty in accordance with the instructions received from the officer commanding the camp.

It is less objectionable to place several regiments one behind the other in the case of the cavalry than in that of the infantry, as the cavalry establish their kitchens at the side of the bivouac.

Bivouac of a Regiment of Cavalry.

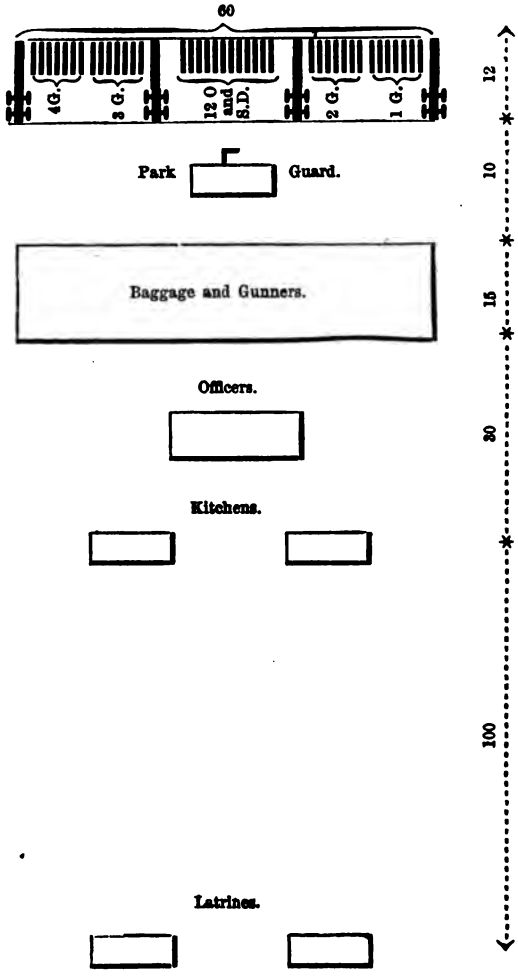


NOTE.—On a peace establishment space for the 5th Squadron must be left in rear of the 4th.

Distances in paces.

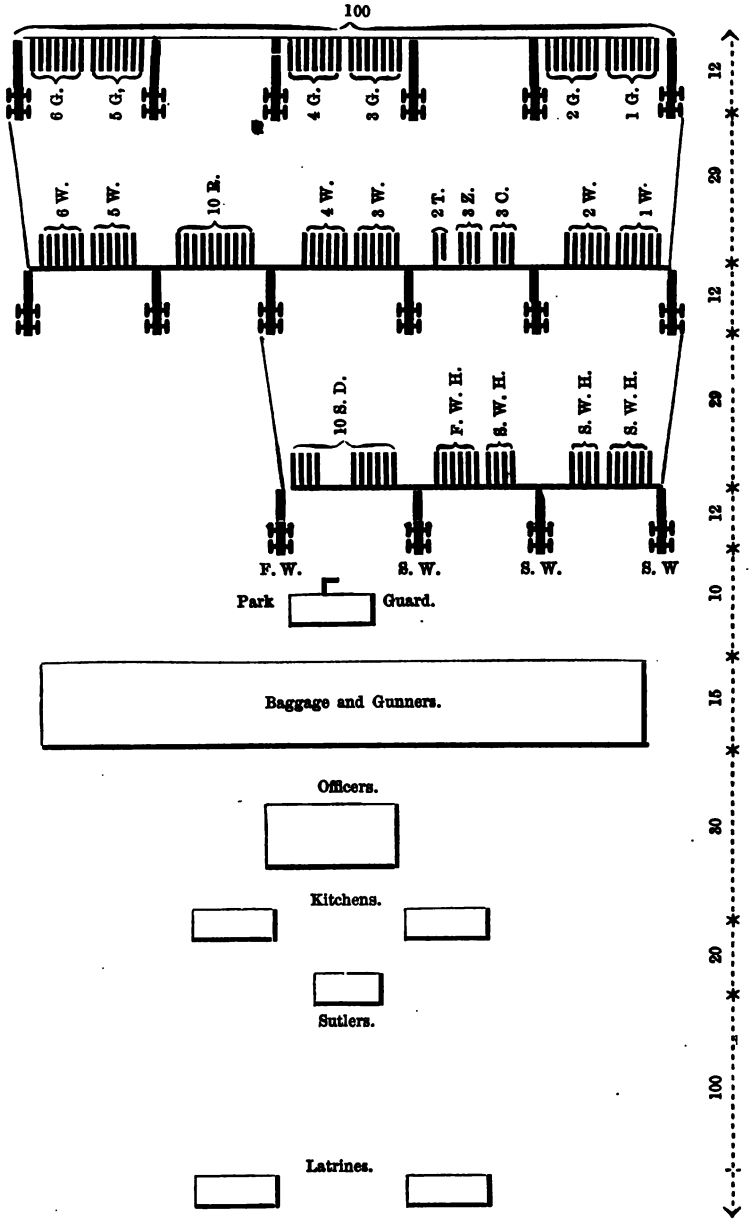
To face p. 38.

Field Battery on a Peace Establishment.



Distances in paces.

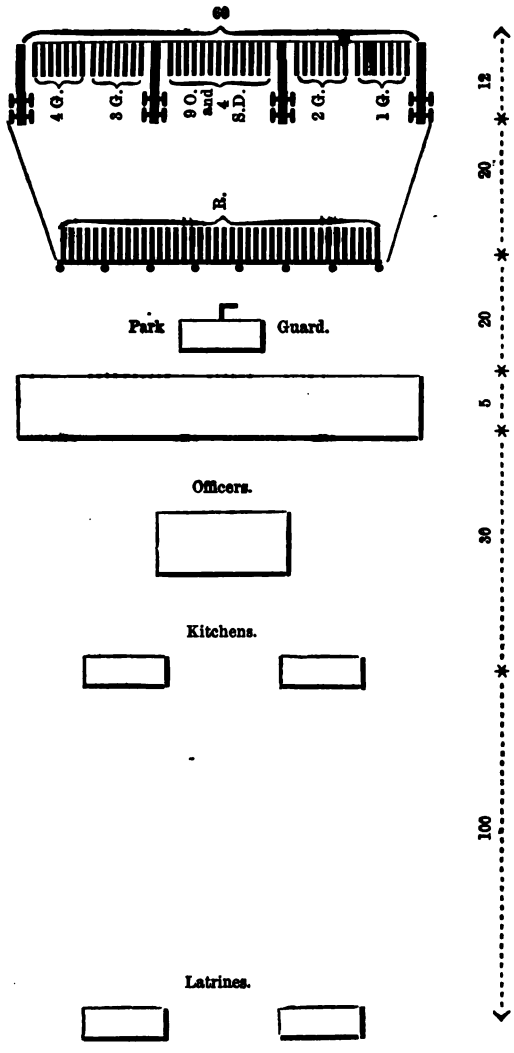
Field Battery on a War Establishment.



NOTE.—The Batteries of the Guard have 3 Trumpeters' Horses. The Light Field Batteries have 8 Spare Draught Horses.

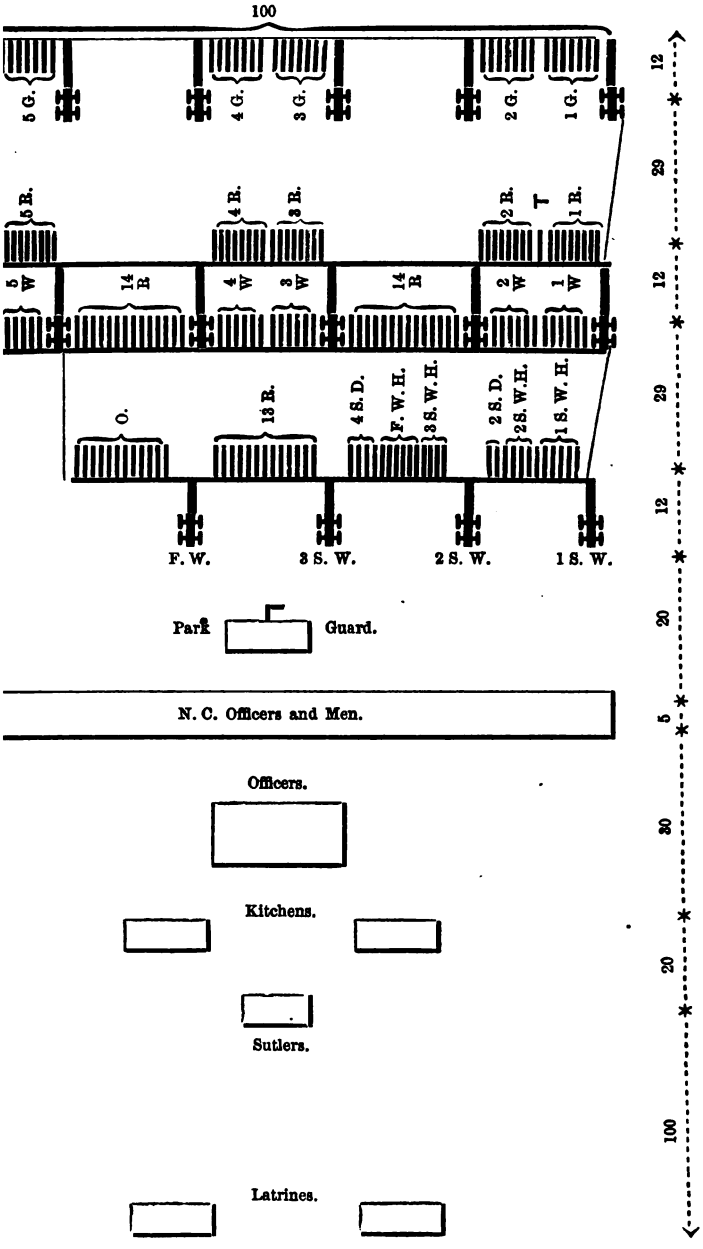
Distances in paces. One Zug=2 Guns.

Horse Artillery Battery on a Peace Establishment.



Distances in paces.

orse Artillery Battery on a War Establishment.



Distances in Paces.

(c.) *Artillery.**

20. The artillery place their guns in front of their bivouac in line, at twenty paces interval; the ammunition wagons form a second, and the remaining wagons of the battery, a third line.

After the battery is formed up in this order, the word "Dismount—Unhook," is given; the men mounted on the guns or wagons unhook, the horses are moved one horse's length to the front, and the gunners resume their places on the wagons and limbers. The non-commissioned officer commanding the sub-division then places a piquet in the ground near the end of the pole, and attaches the latter to it.

On the word "Into Bivouac," the drivers of the odd guns take ground to the left, those of the even guns reverse to the right; the mounted gunners reverse by gun detachments to the left, and form up in one rank; every one then takes up the positions indicated in the accompanying diagrams.

Referenees for Diagrams.

G.	Gun horses.
W.	Wagon horses.
T.	Trumpeter's horses.
Z.	Horse of non-commissioned officer commanding a sub-division.
C.	Horse of commanding officer.
S.W.H.	Store wagon horses.
F.W.H.	Forge wagon horses.
S.D.	Spare draught horses.
R.	Riding horses.
O.	Officers' horses.
Tr.H.	Detachment horses of Horse Artillery.
F.W.	Forge wagon.
S.W.	Store wagon.

21. The park-guard is at once formed without any further orders being necessary, 1 non-commissioned officer and 6 men having previously been told off for that purpose. One sentry is placed over the guns, and another over the arms. The former walks up and down in front of the guns; the latter is posted in rear of the battery.

When the horses have moved to the places assigned to them, the piquet rope is drawn from pole end to pole end.

On the order being given to dismount and take off the harness, the men remove their packs, lay down their arms, and put on their forage-caps; saddles and harness are taken off, and the arrangements for the bivouac completed. The harness and saddlery are placed on the ground, three paces in rear of the horses, in the following order:—

The saddles are placed on the ground with their pommels

* The regulations for the artillery apply also to the ammunition columns, pontoon trains, &c.

towards the horses; the girths, stirrups, leathers, breastplate, and crupper, are arranged on the saddle, and the ends of the shabracque are folded round it; the blanket is folded and placed on the top of all. The bridle is placed on the blanket, the bit towards the horse.

The remainder of the harness is folded up and placed in front of the saddle.

Drivers and mounted gunners stick their swords into the ground, one pace behind the saddle, with the back of the blade to the front. The helmet is hung on the sword. The pouch is placed over the helmet.

D. Regulations in cases of Alarm.

22. In case of sudden alarm, the infantry put on their havre-sacks (Brod-beutel), run to their arms, and put on their belts and accoutrements. Packs are put on and arms unpiled by order of the officer commanding the battalion. The horses belonging to the regimental carts, &c., are put to.

In the case of the cavalry, the horses are saddled as quickly as possible; the men put on their arms and accoutrements, mount and ride to the place of alarm; the horses belonging to the regimental carts, &c., are put to.

The artillery and train saddle and harness horses, put on their arms and accoutrements, and hook in as quickly as possible, the gunners assisting the drivers.

As soon as a regiment or corps is ready to march, a report is made to the officer commanding the regiment or corps as well as to the officer commanding the camp.

Camp guards remain at their posts until ordered to leave, or, in case of necessity, they advance against the enemy.

The regimental sentries remain in charge of any stores, &c., that may be left behind, or, in case of a sudden move, they remain until everything has been packed on the wagons and is ready to be moved.

E. Breaking up the Bivouac.

23. As a rule, the hour of departure from the bivouac is made known beforehand. One hour before the time fixed, the officer commanding the camp orders the assembly to be sounded by the camp guard, unless the vicinity of the enemy renders such a course unadvisable (artillery and cavalry sound "Boot and Saddle)."

A quarter of an hour before the time fixed for departure, the

camp guards are called in, and the troops form up on their regimental parades.

The wagons remain in their places until ordered to move.

V. REGULATIONS FOR DUTIES IN CANTONMENTS.

A. General Considerations.

1. As a general rule, when the troops are partially bivouacked and partially cantoned in villages, they may be held in readiness for immediate action to the same extent as if wholly bivouacked; when the military situation does not render a constant state of preparation for immediate action necessary, the troops are always cantoned, in order, as far as possible, to save them from fatigue and hardship, In selecting cantonments, the superior military authorities will determine whether the necessities of war are to prevail over those of peace or not.

In the former case the extent of accommodation in the various villages is not so much to be considered as their positions and capabilities of defence. The convenience of the troops must be made subsidiary to their security. It will be often necessary to place large detachments in a single building, and to furnish at least a portion of the rations from store.

If a sufficient degree of security is assured by the strength of the positions occupied by the outposts or by the distance of the enemy, or if the operations are conducted in time of peace, the amount of accommodation to be obtained in each village should be carefully taken into account, and the civil authorities should be consulted on the subject.

2. The distribution of the troops in cantonments should be made, as far as possible, to conform with their order of battle. It will, however, generally be unavoidable to mix cavalry with infantry, in order to make use of all the stabling, and also to afford greater security to the former. For this latter reason, also, if there is the least possibility of an attack being made on the cantonment, artillery should never be cantoned alone in one village.

Head-quarters should be fixed as near the centre of the cantonments as circumstances permit, and, if possible, on one of the main roads, or at some point easy of access. In choosing the position for head-quarters, it should be borne in mind that it is desirable to select a spot from which orders can be transmitted to the several cantonments by the most direct routes.

3. Existing roads are of the utmost importance for rapidly assembling the troops. The places of assembly should, therefore, be selected with reference to the direction, &c., of the roads; they should be easy to find, and should be capable of being easily described in written orders.

A place of assembly is appointed for every division or other body of troops contituting a separate command (advanced or rear-guard, &c.), to which all the troops hasten on the alarm being sounded, without waiting for any further orders. The various squadrons, battalions or batteries only form themselves into regiments or divisions (of artillery) if they can do so without delaying their arrival at the general place of assembly of the division, &c.

Batteries of artillery should join infantry or cavalry if danger is apprehended.

A regimental place of assembly is also designated in addition to the above within the cantonments of each battalion, squadron, battery, &c. to which the troops hasten on the alarm being sounded.

If a body of troops occupies several villages, separate places of assembly must be designated for each village in addition to one for the whole body; finally, the troops would be marched to the divisional place of assembly.

After the divisions are assembled, a still further concentration may be effected, according to whatever orders are received.

4. Troops marching into cantonments, when the enemy is near at hand, observe the usual measures for securing their safety on the march, &c. Bands are not allowed to play. The locality chosen for the cantonment and its immediate neighbourhood are carefully examined by patrols and detachments sent in advance of the main body, which should be halted outside the town or villages until this examination is complete, and until the necessary orders have been given and a place of assembly selected.

If the cantonment is already occupied by other troops, an officer is sent in advance to report arrival, and to receive orders from the senior officer of the cantonment.

A small party is usually sent one day in advance of the troops to prepare the cantonments. When this is impossible, a detachment commanded by an officer proceeds in advance of the main body to the place selected, causes it to be patrolled and examined, and divides it into districts corresponding to the minor subdivisions of the troops which are about to arrive; the detailed distribution of the men in the different houses is left to the officers commanding companies, squadrons, &c.

5. The duties and general conduct of the troops whilst in cantonments will materially depend upon their position with reference to the enemy. If no attack is to be apprehended, it will be sufficient to adopt such measures only as are necessary to the maintenance of order; but if the contrary be the case, arrangements for ensuring the safety of the troops must be adopted. The senior officer of the cantonment is charged with these arrangements, and is responsible that adequate precautions against surprise are taken.

The following regulations on duties in cantonments are intended as a general guide both for peace and war, but they

may be modified by any special orders, which circumstances render necessary.

B. Duties in Cantonments in time of War.

6. The regulations to be observed in a cantonment in time of war are very similar to those already prescribed for troops in bivouac.

The senior officer in each town or village (or, in case this officer is a general, an officer specially appointed by him) fulfils the duties of commandant of the cantonment. He takes all necessary measures for ensuring the safety of the place from attack from without, as well as all such as are necessary for the maintenance of internal order. It is his duty to divide the cantonment into districts (if this has not already been done by the parties sent in advance of the main body), and determines the place of assembly for each body of troops, taking care that each should be able to assemble without hindrance to the other, and that an attack may be met without loss of time. The artillery should therefore be cantoned near to the artillery park. The place of assembly of the cavalry and that of the artillery (which must be close to the artillery park) should be in rear of the cantonment, and should admit of free movement in all directions. The places of assembly of the infantry may be within the cantonment itself.

7. Officers from each regiment or corps should be appointed to assist the commandant in the performance of his duties; each independent body of troops furnishes one officer (or non-commissioned officer), who reports himself to the commandant immediately after arrival in the cantonment. The duties of these officers are similar to those precribed for them in the case of a bivouac.

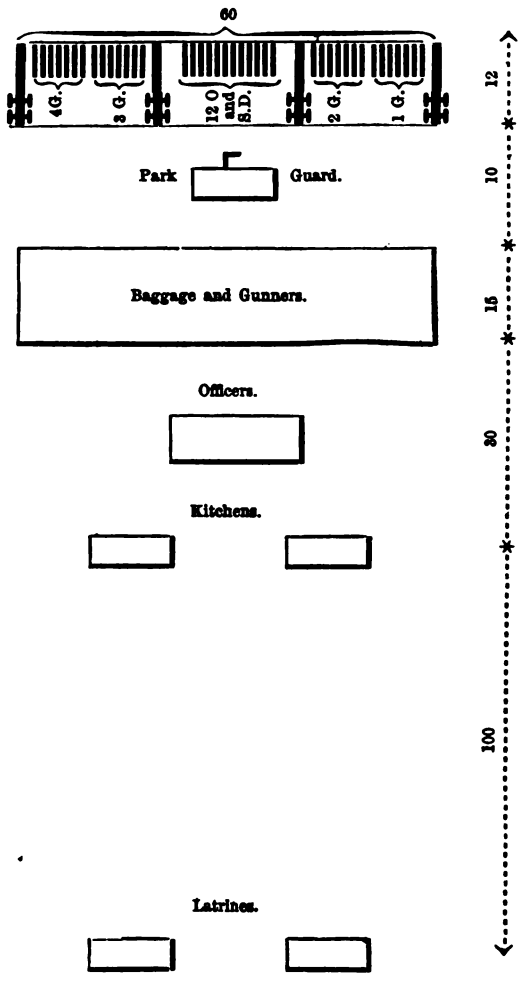
8. The commandant of the cantonment regulates everything connected with the outlying and inlying guards. The number and strength of the former depend upon the size of the cantonment, and the degree to which it is exposed to attack. This latter consideration will determine whether all the outlets are to be guarded, or only those leading in the direction of the enemy. The guards may be established in houses near the roads which it is intended to occupy. They are furnished, as a rule, by infantry and rifles only.

All outlets and places along the outskirts of the cantonment by which the enemy might enter unperceived should be guarded by double sentries.

Circumstances may render it advisable to station sentries, vedettes, or posts of observations during the day in prominent points outside the cantonments. In such cases the number of guards on the roads may be reduced.

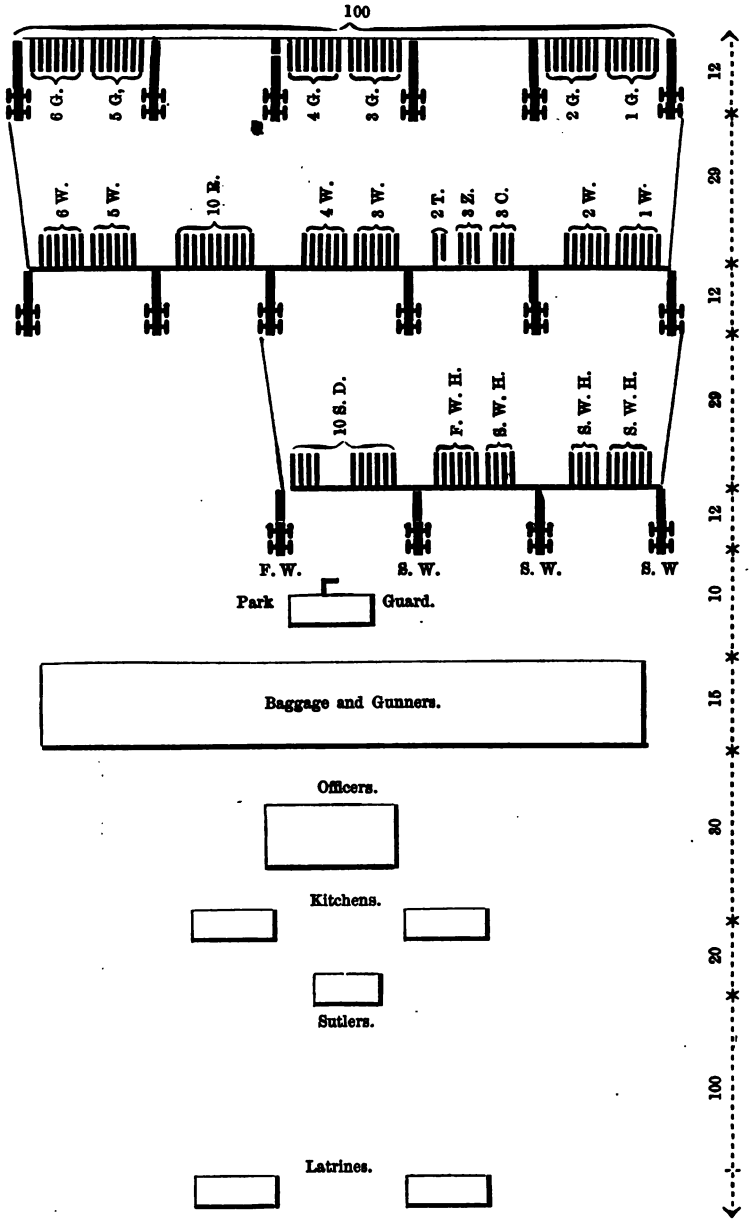
Guards established to ensure the safety of the cantonment follow the same rules as have been already prescribed for camp

Field Battery on a Peace Establishment.



Distances in paces.

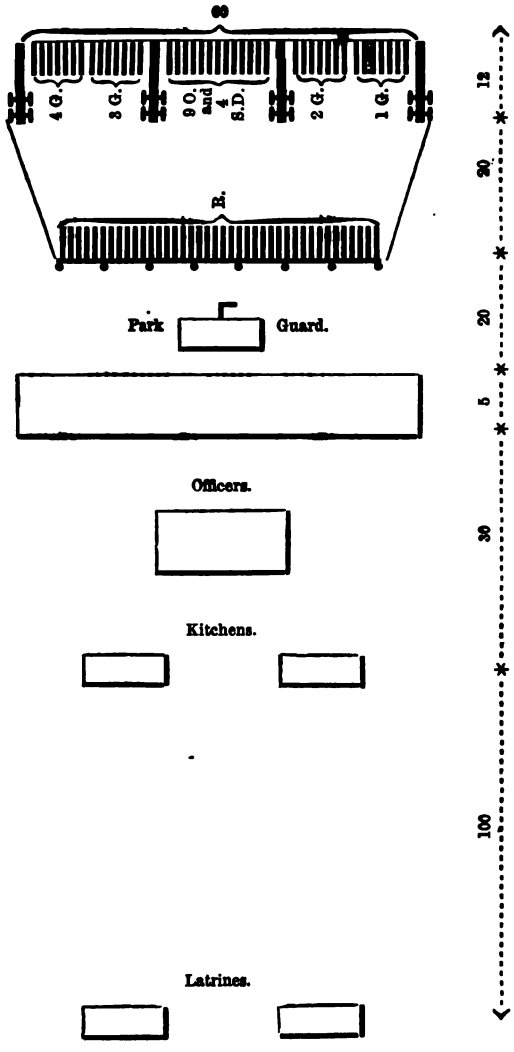
Field Battery on a War Establishment.



NOTE.—The Batteries of the Guard have 3 Trumpeters' Horses. The Light Field Batteries have 8 Spare Draught Horses.

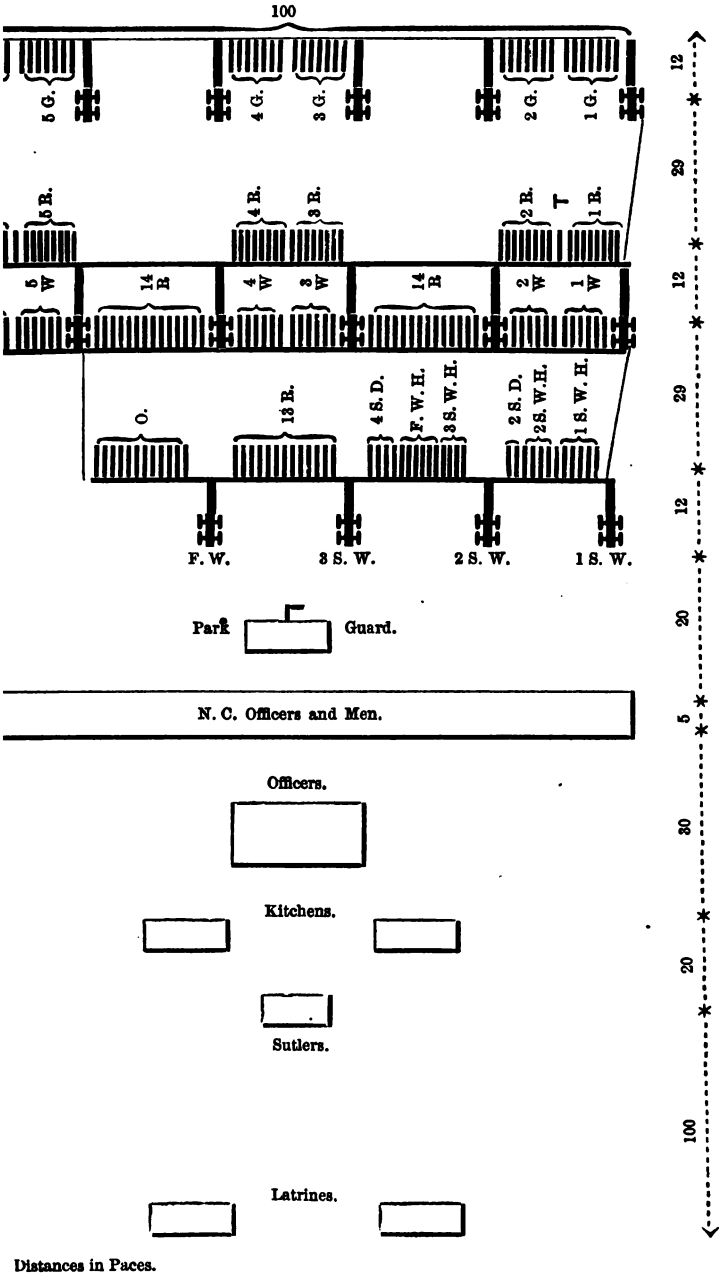
Distances in paces. One Zug=2 Guns.

Horse Artillery Battery on a Peace Establishment.



Distances in paces.

Horse Artillery Battery on a War Establishment.



B. Manœuvres of Two separate Bodies of Troops operating against each other.

5. Field manœuvres of this kind naturally afford the nearest representation of war which is possible in time of peace, both as regards the conduct of the commanders and the capabilities of the troops. In arranging and directing these manœuvres, it must always be borne in mind that the principal object to be attained is to give as accurate a picture of war as is possible, whilst considering the unavoidable limitations which peace imposes.

The superior officers should be frequently changed in the course of the manœuvres, especially as they draw to a close, in order to give as many as possible an opportunity for instruction.

(a.) *Plan of the Manœuvres.*

6. The officer commanding-in-chief communicates to both parties the same general sketch of the operations about to be undertaken from which they may gather the general position of affairs. A special communication is also made to each side separately. This latter communication contains the special knowledge which it is deemed expedient to communicate to each commander, and any special orders which it is desirable to issue to the commander of either party.

The general military situation as the commencement of the operations must be laid down in these instructions with such an amount of detail and precision, that each leader may be fully instructed on every point on which in real warfare he may be supposed to have obtained information. In addition, therefore, to the number of troops under their command and their distribution, they must be informed of all circumstances beyond their immediate sphere of action, which might fairly be supposed to influence their conduct. On the other hand, no orders or even hints should be conveyed to them with regard to any subject on which in real war they would have to decide to the best of their judgment and ability.

7. The reality of the situation which it is intended to represent will be more fully brought out if the same general combination of affairs on which the manœuvres are supposed to be based be allowed to hold good for several consecutive days; the consequences resulting from the course of action adopted by either side will thus be rendered apparent. The exercises will thus not only be made more like actual war, but will also acquire more interest, especially as regards the periods intervening between the actual engagements; neither is it necessary, in such cases, to issue daily fresh special instructions for both sides; it will be sufficient if, after having ascertained the position of the opposing forces, a fresh starting point be determined on for the succeeding manœuvre.

Novel situations and changes in the positions of affairs, or a

change in the immediate theatre of operations, can be brought about by the officer directing the manœuvres if he supposes that further information concerning the enemy has been received, or that other events in some distant portion of the theatre of war have influenced the operations; or he may reinforce one side, detach troops from the other, or by issuing instructions, supposed to have been received from superior authority, oblige the officers in command to change their plan of operations. By these means (which may be applied even in the course of a single field-day) the most instructive and interesting military situations can be brought about. The officer superintending the manœuvres is, moreover, thus enabled, to exercise a control over the theatre of operations with reference to the facilities afforded for providing for the accommodation and subsistence of the troops, as well as the facilities which the nature of the ground affords for peace manœuvres, without being obliged to interfere directly with the independent course of action of the officers commanding.*

If the manœuvres are carried out in this spirit, a character of continuity, bearing a tolerably close resemblance to actual war, will be imparted to them, even though the officers commanding are occasionally changed.

On the other hand, the officers commanding should form an independent opinion on all subjects coming within their own sphere of action, and on the duties imposed on the body of troops they command arising from the general situation of affairs, whether the situation be one which has been imposed on them, or whether it has arisen as a natural result of the manœuvres; in this respect they should behave just as they would have to behave in war, when commanding separate corps.

8. It is absolutely necessary that the general situation originally sketched out and communicated to both sides should in the first instance involve as wide a separation as possible of the opposing forces, in order to permit of those preliminary movements which form one of the most essential and instructive portions of field manœuvres.

Even the most simple military problem admits of being solved in a great variety of ways; moreover, without unduly encouraging the frequent detachment of small bodies, opportunities will constantly present themselves, which will admit of the temporary independent action of minor bodies of troops.

9. It is very desirable that troops should be accustomed to manœuvre over all kinds of ground. It is therefore essential that a district should be chosen as the site of the manœuvres which presents varied natural features, and which admits of the free movement of all arms of the service. No modifications in the

* These considerations should, however, be disregarded whenever a decisive tactical or strategical advantage can be obtained by disregarding them.

configuration of the ground should be supposed to exist which do not exist in reality. The operations of the opposing forces should not be limited by any arbitrary boundaries, for such boundaries would not exist in actual war.

10. In order to bring about occasional changes in the strength of the opposing forces, and in order to prevent one party from being previously acquainted with the strength of the other, the use of skeleton detachments, or of imaginary bodies of troops, whose position is marked by flags, is permitted to a very limited extent.

These skeleton detachments must not, however, be allowed to appear suddenly, to the surprise of foe and friend alike, in a manner which would be impossible in actual war; it should always be possible for the patrols of the opposing party to discover the presence of such detachments, if they perform their duty properly. The party to which these imaginary forces are supposed to belong would generally be informed of their presence or probable appearance on the scene of operations; the special instructions issued to this party should therefore contain information concerning the supposed numbers, &c.*

(b.) Disposition and Distribution of the Forces.

11. The commanding officers on both sides act according to the best of their judgment and with reference solely to the assumed military situation which is communicated to them. They behave in every respect exactly as they would do in real war. The measures about to be adopted by these officers must, however, be reported to the officer superintending the manœuvres, so as to enable the latter to exercise a proper supervision over the manœuvres, as well as to provide for the accommodation and subsistence of the troops.

Occasionally also it will be necessary to anticipate the time at which certain orders would, in actual war, be issued, and to give orders in writing which on service would be conveyed verbally. This cannot altogether be avoided, but the date and form of the order should be made to show that the officer from whom it proceeds is conscious of the anomaly.

The general distribution and disposition of the troops should be communicated in a precisely similar manner to that which would be adopted in actual war. All statements referring to the state of the manœuvres should be given in a postscript or sent separately.

The account of the general distribution, &c., should be

---

* A skeleton battalion is represented by a section commanded by a non-commissioned officer, accompanied by a drummer or bugler, and provided with a conspicuous flag; a skeleton squadron is represented by six men ranged in single rank, accompanied by a non-commissioned officer and trumpeter; the man in the centre carries the flag. A battery is represented by one gun. Skeleton detachments when employed are usually made to represent the reserve.

written in the most clear and concise language and should usually be limited to the following subjects:—

A general sketch of the position, object, &c., of the enemy, should be given as far as it is known. The general in command should communicate his own intentions to such an extent as may be considered desirable. Orders for the opening movement of the manœuvres and for the occupation of the first preliminary positions should be given, only so far as circumstances render such orders necessary, and so far as their execution appears to be tolerably well assured; lastly, the spot where the general in command intends to take up his position, should be clearly indicated.

Special instructions, in the event of a retreat being necessary, can rarely be given until the result of an engagement is made known. It may, however, be necessary to indicate previously, a line of retreat, when it is intended that it should not be identical with the line of march to the front, or with the general lines of communication. In such cases instructions respecting the line of retreat should be issued verbally or by special orders; instructions relative to sanitary measures, ammunition, and subsistence should be issued in a similar manner.

The statement showing the general distribution and disposition of the troops, is to be accompanied, for the information of the officer superintending the manœuvres, by a statement showing the order of battle,* at the time it was issued, which should include the strength and composition of the advanced and rear-guards, detachments, &c.

(c.) *Conduct of the Manœuvre.*

12. The officer superintending the manœuvres is not in any way to interfere in the manner in which they are carried out, but is to allow the utmost freedom of action to commanding officers. With the assistance of the umpires he is to take care that the manœuvres are conducted in a proper manner, but he is only to interfere when unavoidable circumstances arising from a state of peace demand that a different turn should be given to the manœuvres; he can then introduce some new element or special consideration which shall have the desired influence on the operations.

There should be no hurry; every evolution should be executed steadily and in conformity with the regulations; opportunities should always be given to correct errors, thus affording immediate instruction on the spot. A sham fight is always terminated more quickly than a real engagement, and

* The "order of battle" gives the distribution of the troops and of the commanding officers for the time being, and is not to be confounded with any temporary distribution during an engagement or on the march, in which cases, however, the existing arrangements are to be maintained as far as possible.

thus an opportunity is afforded of causing manœuvres which have been badly executed to be repeated.

This difference between a peace manœuvre and the reality of war should be frequently pointed out, in order that no erroneous notions may be formed as to what may or may not be done in a given time. Officers should also remember that the mere fact of the troops being on a reduced peace establishment must necessarily influence everything bearing on time and space.

Officers must learn to consider as real the fire of the supposed enemy, in so far as their own persons are concerned, and should only place themselves in positions which they would occupy in actual war.

13. When troops get clubbed or get mixed up in a hand to hand encounter, the manœuvre should be stopped for a time; this is done by sounding the "Halt!"; order can then be restored, and a decision given as to the military situation. The signal to halt is repeated by all buglers and trumpeters. The troops at once halt, wherever they may be. Infantry pile arms; cavalry and artillery dismount; skirmishers, flankers, and patrols remain steady in whatever positions they happen to occupy. When the "officers' call" is sounded, all officers commanding separate bodies of troops down to battalions or divisions of artillery, adjutants, and officers commanding detached companies, squadrons, or batteries, go to the officer directing the manœuvres.

If the manœuvre, the course of which is arrested, is to be allowed to proceed, the "Advance" is sounded.

(*d.*) *Close of the Manœuvres, and Criticism on them.*

14. When an officer in command considers that he has accomplished the task assigned to him, he may, on reporting the fact to the officer superintending, put a stop to the manœuvres.

The troops must in no case be called on to over-exert themselves, and it is the duty of the officer superintending the manœuvres, to prevent undue exhaustion, by putting a timely stop to further operations. With this object, or when either of the commanding officers desires to break off the manœuvres, the "halt" and the "officers call" are sounded, and the commanders are assembled as stated above.

15. The officer superintending the manœuvres then generally criticises them.

He first of all reviews the general course of the manœuvres and gives his decision on the general results of the sham-fight. He then remarks on the conduct of the troops, the umpires (compare VII) having previously communicated to him their observations.

The criticism should be concise and instructive, without being unduly abrupt. In certain cases it may be necessary to ask for explanations, in order that erroneous opinions may not

be formed or unjust decisions pronounced. Reprimands, when necessary, are to be administered with a due regard to limiting their publicity. Proposed changes of commanding officers and orders involving a change in the military situation may be made known at the same time that the criticism is communicated.

(e.) Occupation of Out-posts, Bivouacs, and Cantonments.

16. The conditions necessarily imposed by peace do not admit of the results of an engagement being followed up to such an extent as to exhaust the troops. If it is required to practise the troops in outpost duties in the course of the same afternoon or during the night, the retreat of the conquered, and the pursuit of the conquerors must be restricted to certain limits by the officer superintending the manœuvres.

The position of the outposts of the retreating force in such a case generally regulates the position of the outposts of the pursuers, for, if the latter desires rest, he must keep at such a distance from his opponent as not to provoke a renewal of the engagement.

During the manœuvres, the out-posts must never approach so close as to keep each other mutually in a state of constant alarm, for in real warfare in such a case both sides would keep under arms all night; thus no opportunity would be afforded for practising patrolling, which is one of the most essential parts of outpost duties.

The cessation from fighting must be carried out during the manœuvres as in actual war; a purely conventional cessation of hostilities is not permitted.

The operations are, therefore, generally resumed after the delivery of the criticism on the signal to advance being given, in order to bring the engagement to a gradual close according to the rules of war. An exception to this rule is admissible only when the troops are scattered in distant cantonments, which could not be reached without heavy marches, or when the weather is very bad.*

The gradual cessation of fighting can be effected with great ease, without over-fatiguing the troops, especially when detachments or divisions are manœuvring, or when the troops go into bivouac; the manner in which the troops are withdrawn from action must always form an essential part of the manœuvres, and should be made the subject of criticism on the following day.

17. In real warfare the outposts are occupied by the advanced or rear-guards. If other troops are employed on outpost duty during the manœuvres, the relief of the outposts must take place in strict accordance with the rules of war.

If the manœuvre is not to be resumed, and the troops,

* Care must be taken that the troops are not unnecessarily detained before being allowed to march into bivouac or cantonments.

with the exception of those employed on outpost duty, are permitted to march into bivouac or cantonments whilst the criticism is being delivered, they should do so by command of the senior officers who remain with them. The march into bivouac must be arranged so as to prevent anomalies that would not occur in war, for instance, crossing the route of a hostile detachment, &c.

The general site chosen for the bivouacs must depend upon the military situation, as explained by the superintending officer in the course of his criticism; the detail is settled by the officers commanding, the superintending officer interfering only in exceptional cases.

18. The period immediately succeeding the manœuvre need not necessarily be one of absolute rest, neither should practice in military duties be discontinued altogether. Cavalry detachments should procure information respecting the position of the enemy, and small affairs of outposts may take place, and reconnoissances may be made, to gain an insight into the intentions of the enemy on the next day, without, however, unduly fatiguing the troops.

The side which takes the initiative in these affairs is bound to inform the superintending officer, or one of the umpires, as early as possible, of what has been done.

(*f.*) *Resumption of the Manœuvres.*

19. If the manœuvres have been broken off at night, the fullest liberty should be allowed with respect to the manner of resuming operations on the following day, the only limitation which must be considered, being the time required by troops in cantonments to assemble.

It is generally sufficient if the superintending officer gives an hour's notice before the commencement of the operations. The preliminary movements and the selection of a place of assembly are left to the discretion of officers commanding; the latter must, however, be communicated to the superintending officer.

(*g.*) *Cantonments.*

20. In real war the villages in which troops are cantoned must be protected by outposts, and must not be so scattered as to prevent the troops from assembling rapidly. The number of men quartered in each village depends on circumstances. Even if the troops bivouac, any adjoining buildings may be used as alarm-posts.

In time of peace, however, everything relating to cantonments is pre-arranged with the civil authorities, who are allowed to enlarge the area over which the cantonments are spread, so as to reduce the burthens to be borne by each village. At the same time no body of troops should be required to march more than 18 miles (4 German miles) a day

including their march from and to their cantonments, and the marches executed during the manœuvre. By making such an arrangement that the troops who were originally furthest from the scene of the manœuvres occupy the nearest cantonments on their termination, the troops may be considerably relieved.

It is frequently impossible to protect the cantonments entirely by outposts, owing to their great extent; cantonments, not protected by outposts, are not to be considered as being militarily occupied, and must not be alarmed or surprised. These cantonments form neutral ground as far as the outposts on both sides are concerned, unless any of them should be specially designated by the superintending officer as being in military occupation.

It is, moreover, desirable that the villages immediately in rear of the outposts should have relatively small garrisons quartered on them, so as to afford shelter for the outposts in case of bad weather.

21. If the superintending officer should unexpectedly find it necessary to substitute cantonments for bivouacs, the troops are to be crowded together as much as possible, and the rations intended for the bivouac (and sometimes also straw and wood) are to be issued to them. Small villages can accommodate large bodies of troops under these circumstances, for shelter is all that the men require. If sufficient cover cannot be obtained for all the horses, they should be placed as far as possible under the lee of large buildings. Under such circumstances the military police must be especially watchful to prevent fire or other damage.

A cantonment of this kind, protected by outposts, is a sufficiently good representation of a cantonment in time of war. The officer commanding, distributes the villages amongst the different corps; he should trace the boundaries at each district by lines which can be easily distinguished on a map. Places of assembly in case of an alarm, should also be designated.

(*h.*) *Disposition of the Train in Bivouac.*

22. The articles required for the bivouac are taken to the spot by hired carriages, which are usually packed at previously arranged depôts.

The wagons should be moved out of the bivouacs or cantonments, and collected at a spot where they will not interfere with the movements of the troops.

Considerations of supply or the movements of the train of wagons, are not to be permitted to interfere with the progress of the manœuvres. It is, however, necessary that the troops should be joined as early as possible by their wagons, and it is desirable that the depôts should be sufficient in number, and placed in suitable positions, so as to spare the wagons unnecessarily long or difficult journeys.

The superintending officer generally reserves to himself the right of regulating the movements of the wagon-trains on both sides, with the exception of the regimental wagons. The information in his possession will always enable him to direct the wagon-train to places not far from the sites which the commanding officers will select for bivouacs. The commanding officers then order the wagons to join as early as possible.

The staff, by careful arrangement and by a suitable direction of the movements of the wagon-train, can be of material assistance in this respect. Care must be taken that the safety of the wagons is not compromised during the manœuvres. In any case they are not to be captured by either side.

A commander is appointed to each column of the train, who is responsible for the maintenance of order.

(i.) Close of the Manœuvres.

23. If after the close of one series of manœuvres a day of rest is to be allowed, or if the manœuvres are to be finally broken off, the whole force is ordered to concentrate, and the "Assembly" is sounded. If the "Officers' Call" is also sounded, the commanding officers meet, but the troops start at once for their respective cantonments.

If a manœuvre is subsequently continued, after a day of rest, at the point at which it was broken off, the advanced troops return to the positions which they held previously. Under their protection, commanding officers assemble their troops in the manner best suited to carrying out their intentions.

VII. SPECIAL REGULATIONS ON THE CONDUCT OF THE MANŒUVRES, AND ON THE DUTIES OF THE UMPIRES.

1. The result of an engagement depends primarily upon considerations, the elements of which can only be introduced into peace manœuvres to a very limited extent.

This unavoidable check on the utility of peace manœuvres must be reduced to a minimum, partly by obliging every commanding officer to form a sound opinion on his military situation, and partly through the influence of the superintending officer and of the umpires.

Every commanding officer is called upon to decide, in the first instance, whether, in a given case, he would be able to continue the defence of a position, or whether, on the other hand, he could attack; or, lastly, whether circumstances would compel him to retreat.

2. Cases may, however, arise in which opinions with respect to the position of affairs may differ, or in which a want of

correct information on the strength, position, &c., of the enemy renders the formation of a correct opinion impossible; or, circumstances may arise in which the result would depend upon the bravery of the troops or upon other considerations whose true influence cannot be thoroughly appreciated in time of peace.

In all these cases the decision is given by the umpire, who thus establishes a fresh base for the continuation of the operations.

His decision need not necessarily take into account all the circumstances which might have influenced the result in the opinion of either or of both sides. It is especially desirable to let the soldiers think that, in reality, their own side would have been victorious. A battalion in close order, for instance, firing steadily, ought to feel convinced that it would repulse an attack of cavalry; the cavalry, on the other hand, should feel equally convinced that it would have been successful. The umpire must decide in favour of one side or of the other, but his decision need not affect the belief of the troops in their probable success.

3. The officer superintending the manœuvres acts as principal umpire, except when umpires are specially appointed by the Emperor. Inasmuch, however, as this officer will not be able to decide personally on every case that may occur, he appoints one or more field officers to act as his assistants, and distributes them over the scene of manœuvres according to the requirements of each particular case. The appointment of an umpire to watch specially over the operations of large masses of cavalry is very often requisite.

4. The umpires must be present during all the important and critical moments of an engagement which takes place within their special district or sphere of action, and they must interfere, when necessary, in order to ensure the proper conduct of the manœuvres.

They decide solely with reference to the actual positions of the opposing sides, and without considering the ultimate consequences of those positions as regards the result of the entire manœuvre.

In the case of an action which would have, more or less, placed a body of troops on a field of battle completely *hors de combat*, the umpire decides to what extent the troops are to be supposed to have been disabled, whether they are to be withdrawn temporarily from the immediate scene of operations, or whether they are to be withdrawn entirely.

If the latter course be decided on, these troops are sent to the reserve and placed at the disposal of the officer directing the manœuvres, who may employ them in such a manner that the instruction, which it is the object of the manœuvres to impart, shall not be entirely lost to them.

The umpires are bound to see that their decisions are carried out; these decisions are to be considered as imperatively binding upon all.

The more important decisions are communicated by the umpires to the officer directing the manœuvres. The officers commanding the corps, divisions, &c., which are concerned in the decision, make all necessary communications to their subordinate officers and men.

5. The same causes which decide victory or defeat in war must determine the success of the operations undertaken during a peace manœuvre, and the accepted rules of tactics are to be the only guides on which the decisions of the umpires are to be based.

6. Care must be taken that measures which appear advantageous during peace manœuvres, but which might prove disastrous in real warfare, are not permitted to occur frequently during the manœuvres. Amongst such measures the following may be especially indicated:—An excessive extension of the front in order to outflank the enemy; frequent detachments to turn his flanks; repeated attacks by the same bodies of troops without having first been reinforced; undue separation of the three arms; a defence conducted by cavalry alone, which it would be impossible to sustain for any length of time in real warfare; or a too constant contact of cavalry with the enemy (see 10 to 14, below). Complicated movements, also, which perhaps may succeed during a peace manœuvre, but which would be impossible in real war, are to be avoided. In time of peace, regiments are on a low establishment; the number of officers is proportionately large; every one is accustomed to take his ordinary place; no casualties are caused by death or wounds; mistakes in the transmission of orders rarely occur; false information seldom misleads. In time of war the condition of affairs presents, comparatively, difficulties of so much more serious a character as to render the utmost simplicity in all manœuvres a matter of necessity.

7. The umpires should always attach great importance to the steadiness and order of the troops engaged, as well as to the fact of their being kept thoroughly under the command of their immediate superior officers.

8. Next in importance to this point, the probable effect of their fire should be considered decisive in the case of infantry.

The fire of infantry must be delivered without haste, at the right time, and in the right direction; the intensity of the fire should decrease or increase according to the object to be attained.

Steadiness can readily be acquired during a peace manœuvre, for at such a time it can be much more easily enforced than during real war.

The men must learn to comprehend the superior effects of a cool and well-directed fire. All wild firing and volleys delivered without orders must be considered by the umpire to be greatly to the disadvantage of the troops guilty of such proceedings.

The ordinary drills should already have taught the men to be sparing in the use of their ammunition. The officers will be

enabled during the peace manœuvres to learn how to make the best use of infantry fire. They will perceive when it is necessary merely to keep up a well-sustained fire, and when to increase its intensity and to bring a concentrated fire to bear upon the enemy.

Even the most violent fire on the part of a distant enemy should be answered merely by the best shots, to whom the large masses opposed to them present a good mark.

An attack in column should be met by volleys, which ought to annihilate an enemy if the fire be reserved until the column is so near that no shot can fail in effect. Volleys at more than 300 paces should not be fired unless the object aimed at is very large, or unless the enemy begins to falter in his forward movement and to fire irregularly.

Previous to an attack great results may be gained by concentrating the fire of the infantry on the most important point.

9. The fire of the enemy should also be carefully considered. In real warfare the effect of his fire will naturally soon make itself felt; during peace manœuvres, where this is not the case, columns should not be permitted to remain for any length of time within the effective range of an enemy's fire, which in real war would annihilate them.

It is, however, unavoidable that the troops should frequently be brought under a close fire, in order that the action may be decided; a timid endeavour to keep the troops beyond the range of a heavy fire would not correspond to the conditions of actual war, in which no result can be obtained without sacrifice.

At the same time, an attack must be considered to have failed if the infantry abandon the advantages which the nature of the ground or the distance of the enemy afford, in order to form in dense masses within range of the enemy, and then proceed to the attack, perhaps across an open plain, with the second line following close in rear of the first.

However strong positions with open ground in front of them may have become by reason of the increased efficiency of modern fire-arms, the flanks still remain the weak points, especially when the supports have to be kept at a distance, so as not to expose them to the enemy's fire.

A line of skirmishers, with its supports close at hand and sheltered from the enemy's fire by lying down, is ready at any moment to profit by any favourable opportunity that may arise of occupying the ground in its immediate vicinity. The enemy should be approached by degrees; if possible, the attack should be made against one of his flanks; when within a suitable distance the supports may, by deploying, out-flank the enemy, and at the same time develope a greater front of fire. If it becomes apparent that the enemy is shaken by this fire, the assault may be made. The skirmishers throw themselves upon the enemy's position, trusting to rapidity of movement to ensure their safety. Whilst they thus draw the enemy's fire upon themselves, the

supports advance in close order and without firing a shot; the latter must advance rapidly, resolutely, and without wavering, for there cannot be the least doubt that the heaviest losses occur when an attack is abandoned, and when the defenders, retaining their own position, fire volleys upon a retreating enemy, and send out skirmishers and cavalry in further pursuit when the force which originally attacked is out of range of volley firing. The losses occasioned by such a repulse would prove so considerable, that renewed attacks on the enemy's position by the same troops and under the same conditions would have little chance of success.

An attack, once begun, must therefore be carried through to the end. During peace manœuvres the attacking force should move close up to the enemy, and if the latter should not consider it necessary to abandon his position, the order is given to cease firing and halt until the decision of the umpire can be obtained. Both sides must cease firing when within sixty paces of each other. By observing this rule ridiculous situations which would be impossible in real war are avoided; such, for instance, as battalions exchanging volleys at a distance of 50 paces from each other.

10. The principal regulations for the guidance of cavalry will be found in Appendix I. An engagement of cavalry against cavalry is hardly capable of being represented during a peace manœuvre.

It results from the peculiar nature of this arm of the service that during the greater part of an action its mere presence has a passive effect; the rapidity of its movements are a source of constant anxiety to the enemy; but although it thus always maintains a threatening attitude, it is only during a few brief moments that opportunities for action occur.

The attacks to be made by cavalry are therefore few in number; the reserve cavalry may very probably be only called upon to attack once; it is, therefore, of the utmost importance that the right moment for the charge should be chosen.

These peculiarities of cavalry must be represented during peace manœuvres as far as possible.

It must be borne in mind that a general who orders cavalry to charge is generally obliged to dispense with its services for some time, even under the most favourable circumstances; cavalry, which has been decisively repulsed, requires longer time to reorganise; very possibly it may not be in a serviceable condition during the remainder of the day.

An opportunity for entirely independent action on the part of the cavalry rarely occurs during an engagement. The other arms of the service have to sustain the action during by far the greater part of the time; and the cavalry should remain with them, in order to seize an opportunity, should it occur, of affording timely support. Cavalry should therefore act throughout an engagement in combination with the other arms of the service.

The cavalry attached to divisions is required to co-operate with the infantry and artillery, and must therefore remain near those arms, without exposing itself unnecessarily to the enemy's fire, and must not join in the less restricted operations of the reserve cavalry.

11. It frequently happens that the cavalry of one side appears in the first line at the very commencement of a manœuvre. The officer commanding the other side then frequently considers himself bound to send his own cavalry to the front, and thus, during the entire course of the manœuvre, the cavalry are separated from the other arms, and operate in a manner which would be impossible in real war, generally on one of the flanks of the two hostile parties. The premature appearance of the enemy's cavalry on the field need cause no alarm, and does not necessitate a counter-advance of cavalry. No better chance for an attack can be desired than when the enemy masks his own fire and sends forward his own cavalry to be exposed to the fire of his opponents. The enemy, by concentrating the whole of his cavalry on one flank, has to dispense with its services on the other, and thus a favourable opportunity is afforded for the action of cavalry against the exposed flank. The error which is made in sending cavalry prematurely to the front will be brought out in strong relief if the opposing force refuses to meet the advance by a forward movement of his own cavalry, for the cavalry will then be compelled either to halt under fire, or to charge unshaken battalions and batteries, or to proceed by circuitous roads to the rear of the enemy's line, and attack his cavalry unsupported, and with its front reversed.

12. As regards the representation of a charge during a peace manœuvre, the attacking bodies approach within 50 paces of each other, when the umpire at once gives his decision. The losing side then retires, at a trot, in the direction indicated by the umpire, to a distance of at least 300 paces. The supporting lines or échélons of cavalry, unless the umpire considers that they would have a chance of altering the immediate result of the engagement, also trot to the rear until ordered to halt by the umpire.

A cavalry charge cannot be fairly represented unless the umpire rapidly comprehends the position of affairs, especially with respect to a renewal of the attack by squadrons following as supports; it is also very necessary that his orders should be carried out without delay.

13. The chief points to be considered by the umpire, are the following:—whether the attack could have been directed against the enemy's flank; whether the line arrived at the prescribed distance from the enemy in good order; whether the charge was supported by the fire of other troops, or whether the cavalry, in advancing, were exposed to the fire of the enemy; whether the reserves were at hand, and what part they took in the engagement.

If no distinction on these points can be made on either side, superiority in the number of squadrons in the *first* line, must be considered as decisive of success.

The squadrons which are supposed to be repulsed retreat direct to the rear at a trot. The victorious cavalry follows at a walk for at least 100 paces, before halting to re-establish order in the ranks. It may, however, pursue the enemy (it the officer commanding considers such a course desirable) at a trot, and for as long as it likes, even beyond the field of battle, without, however, being allowed to charge a second time; under these circumstances the defeated side is not permitted to halt or to rally.

The umpire, with a view to lessening the fatigue of the troops, and the injury done to fields, &c., should eventually put a stop to this pursuit, but it is desirable not to stop it too soon, in order that the success obtained may become fully apparent. If the umpire should find that the defeated cavalry would not have been able to rally under the shelter of its supports on the pursuit being continued, or should the cavalry in retreat meet with a natural obstacle of the ground, which prevents all further progress, then a second charge may be made by the pursuers before the obstacle is reached, and the party repulsed cannot again be employed during that day.

On the other hand, if the pursuing cavalry meets the enemy's second line or flank échélons, it will labour under a disadvantage, inasmuch as its own ranks are disordered by the recent charge, whilst the hostile bodies of cavalry, though possibly weaker, are still in good order. The pursuit may thus not only be stopped, but the side hitherto victorious may be pursued in turn in the manner explained above, unless, indeed, there should be a second line to provide against this emergency.

In this latter case the side originally repulsed is permitted to rally, and the pursuit is mutually stopped. In real war the actual mélée would take some little time, and the interval which would be thus occupied may be allowed to the umpire in order to enable him to come to a decision.

It will of course be readily understood that a small detachment, bearing no proportion to the strength of the first line, cannot be regarded as a second line, capable of checking the pursuit.

In order to give cavalry evolutions during a peace manœuvre the character of real war, the umpire must from the commencement anticipate to a great extent what will be done; he must give his decision at the first moment of collision, and he must, therefore, above all things, *be on the spot.*

Peace manœuvres, however, are principally useful to cavalry in affording practice in outpost and patrol duties.

14. When cavalry is engaged against the other arms of the service, the decision depends less upon its numerical strength than upon the condition or formation of the other troops at the time the attack takes place. The umpires will therefore have to

take into consideration any occurrences immediately preceding the attack, which may have placed a battalion or a battery in an an unfavourable position, either temporarily or permanently.

15. A body of infantry which is shaken by artillery fire, or which is disordered by having made an unsuccessful attack, and has to retreat for a considerable distance across an open plain, naturally offers greater chances of successful attack to cavalry than a body of infantry maintaining its position steadily, and perhaps not even deigning to form square.

16. Artillery attacked by cavalry whilst limbering up or unlimbering, and before it can fire a shot, is to be considered incapable of offering resistance. If its supports are not at hand, or if they are attacked by cavalry at the same time, the guns are to be considered as captured.

The same applies to a battery in action, if the cavalry attacks it in rear or flank before it has time to direct its fire in the direction from which it is attacked.

17. Cavalry officers must learn to seize rapidly such momentary opportunities for action, and when once they have decided what they intend to do, to act with vigour, for surprise is one of the most important elements of success on the part of cavalry. The cavalry attached to divisions will have especial opportunities of action against the enemy's skirmishers or his batteries, when they first take up their positions. Inasmuch, however, as the most daring charge of cavalry may fail on account of the sudden appearance of an unexpected ditch or hollow way, it is most essential that scouts should be sent in advance to examine the ground as far as possible.

18. The action of artillery depends solely on its fire. Movement temporarily interrupts this action, and is merely a means for getting into a position from which an effective fire can be delivered. The range being once determined, a battery should remain as long as possible in the same spot, especially as a few hundred paces in the range interferes but little with the accuracy of the fire of rifled guns. The umpires will, therefore, distinguish between a battery firing steadily, after having determined its range, and another which changes its position frequently, and therefore necessarily loses time in judging the range.

When the infantry to which the artillery is attached proceeds to attack, it must be supported by the fire of the batteries, and when this cannot any longer be done effectively from the original positions which are taken up, the batteries must follow the movements of the infantry, and approach close to the enemy, at the risk even of exposing themselves to musketry fire.

19. During peace manœuvres, everybody hears and sees the fire of artillery, but cannot tell in what direction it is delivered. It frequently enfilades a battery or a column without the parties concerned taking the least notice of it. The superintending officer and the umpires are charged with the duty of

causing the great execution which may be inflicted by this arm to be properly appreciated.

They will also see that a battery fires not only from the proper position, but also against the proper object.

This object at the commencement of an action is usually the enemy's artillery, which would then be taking up its position; at such a time, no other object is within effective range; fire should also be directed against the enemy's artillery when the principal object to be gained is delay, or towards the conclusion of the engagement, when the enemy's artillery is advantageously posted to repulse an intended attack on his position.

During the greater portion of an engagement, however, the artillery should direct its fire against infantry or cavalry, especially when they are massed in dense bodies. Batteries fired on by hostile batteries should not reply to the fire so long as cavalry or infantry are within effective range.

A battery in action which is in danger of being silenced should be reinforced and furnished at any cost with ammunition rather than be withdrawn, which latter course always produces an unfavourable impression. The officer in command of a battery in such a position must not, therefore, retire arbitrarily, without regard to the position, &c., of the troops which he is supporting. If obliged to change his position in order to deliver a more effective fire, he should do so with reference to the body of troops to which his battery is attached. The umpires will take especial care that no division manœuvres without being accompanied by the batteries which belong to it.

Batteries of artillery are as much under the command of the officers commanding corps, divisions, &c., as other troops; these officers are responsible for the proper and judicious employment of the artillery.

20. If a battery is captured during the manœuvres (compare par. 16) the cause is to be carefully ascertained by the umpire, for it will often happen that the battery is not to blame, but rather that the attacking force is at fault. There are occasions, moreover, in which the artillery is bound to maintain its position tenaciously to the last, and when the loss of guns may not only be justified but may even be regarded as honourable.

If the officer commanding the battery has orders to maintain his position to the last moment, or believes it to be advantageous to do so, he makes known the course of action which he has resolved to adopt, by not limbering up, and by continuing to go through the form of loading until the attacking force is close to the battery. But when there is no such necessity for maintaining a position so tenaciously, the artillery must not wait for the near approach of the enemy's infantry, inasmuch as in real war it would not be possible to limber up and retire under a close fire of infantry; such a proceeding should not, therefore, be permitted during a peace manœuvre.

APPENDIX I.

Officer Commanding the Cavalry.

Order, mobility, strength, and rapidity of movement are qualities indispensable to the formation of an efficient cavalry; a quick appreciation of the position of affairs during an engagement, prompt decision, and rapid and daring action are the chief elements for its proper guidance. A cavalry leader must be animated by a spirit of enterprise; he should be burning with desire to be allowed liberty of action, and will even assume this liberty, if it be not already accorded to him. The most favourable opportunities will escape him if he reports first and asks for leave to act; he must decide his course of action on his own responsibility.

Infantry when shaken or in disorder, artillery limbering up or unlimbering, cavalry when deploying or when exposed to a flank attack—these are his proper objects of attack, and his certain prey, if he can surprise them; but to do so is often a question of minutes.

In order the better to recognize his opportunity he is not to remain always close to his men, nor to ride about much, for he sees less when in motion than when halted in suitable positions.

His preparations for the attack should be made through aides-de-camp or orderlies, whilst he himself halts, for whilst his back is turned to make these preliminary arrangements the favourable moment may pass away. His eye must follow incessantly the whole manœuvre, and especially the movements of the enemy's cavalry, so that he may divine any exposure or negligence on the part of the enemy even before it becomes actually visible.

It is only thus that he can hope to appear unexpectedly in sufficient force and in a suitable formation at the right time. Thus, only, will he be able to appreciate the relative value of events, and will avoid following up every small success to the neglect of other and greater issues; he should not waste his time in destroying companies, when it is possible for him to decide the result of the whole battle.

He must employ officers to keep him informed of the nature of the ground, and of the strength and position of the enemy's cavalry.

He is especially charged with discovering everything which takes place on the field of battle, and must use force to attain his object, if necessary.

No attempt made by the enemy to turn a flank should escape his notice, for it is the especial duty of the arm of the

service which he commands, to arrest the movement, and possibly avert the threatened danger; under such circumstances he should be prepared to act without hesitation, and on his own responsibility.

An undue dispersion of force is always to be condemned, and renders great successes impossible.

If the officer commanding the cavalry finds that he is in a numerical superiority, and, nevertheless, the enemy ventures into the open plain, he must not hesitate to drive back his cavalry, and then, assisted by horse-artillery, attack the infantry in rear.

Cavalry always attacks in line, but manœuvres in column. The column of troops (Zug-Colonne) appears to offer most advantages for the evolutions of a single regiment; this formation preserves the independence of the different squadrons; it is pliable, and admits of the rapid formation of line. It is an error to deploy prematurely, for long lines cannot obtain cover, and are unable to surprise the enemy; they are, moreover, difficult to move, and become disordered by movement.

The formation in column admits of reaching the point from which the charge is to be made with rapidity and in good order. Columns can take advantage of the natural features of the ground to obtain shelter from the enemy's fire, and hide themselves from his view; they avoid obstacles with greater facility than line, and can often appear where their presence is unlooked for by the enemy.

At about 800 or 1,000 paces from the enemy the column should deploy; the supports follow in column, on one or other flank, in order that, should the first line be repulsed, the enemy may be taken in flank if he attempts to pursue.

If time allows, the horse artillery should prepare the way for the attack, but the right moment for a charge should on no account be allowed to pass by in order to enable the artillery to come into action.

The old and glorious tradition of cavalry, that it never waits to be attacked, but always advances against the enemy, should be strictly maintained.

APPENDIX II.

A. Rules for avoiding Accidents, Disorder, and Injury to Private Property.

1. Blank cartridge must not be fired at a less distance than 60 paces. This regulation is to be strictly adhered to during all peace manœuvres. Should the opposing forces happen to approach nearer to each other, the officers at once give orders

to halt, and order arms. The umpires then decide what is to be done.

2. Firing near buildings, haystacks, &c., is forbidden. The defence of a village can, therefore, only be represented by placing sharpshooters along the hedges which are the farthest removed from the village, and by ordering the reserves to come up. Detachments, which in actual war would occupy churches, farmyards, houses, &c., only approach these buildings, their officers at the same time informing them of the manner in which they would have to act during a real engagement.

Bridges are not allowed to be destroyed, but their supposed destruction may be indicated. The umpires determine how long a time their reconstruction is to be supposed to require.

3. Sham fights are not to take place in districts where gardening is carried on extensively, or where expensive herbs or seeds are being cultivated. In other districts, also, cultivated fields are to be avoided as far as possible. Uncultivated ground can generally be found for places of assembly, for the meetings of the umpires, for marches when not in actual contact with the enemy, and for bivouacs, halting places, &c.

Officers commanding must consider whether it is absolutely necessary to cross cultivated fields for the purpose of executing the orders which they have received, and are personally responsible for all the damage which they may do unnecessarily.

Gardens, vineyards, fields growing tobacco, flax, or other costly produce, enclosed meadows, and young plantations, are always to be avoided during the peace manœuvres.

The umpires will cause especial attention to be paid to these regulations, and, if necessary, they are to interfere to enforce their observance.

Railways are only to be crossed at the regular crossings.

These natural features of the ground, which are avoided for reasons which only obtain in time of peace, are, however, only to be regarded as tactical obstacles when they would be so really during actual war; for instance, railway cuttings or embankments, form real obstacles; but when the line runs along level ground, troops are supposed to be able to cross it when deployed. A body of troops, therefore, which is crossing a line at a level crossing in some form of column, is not to be considered as such a column in reality, and the umpire will not permit the opposing force to take special advantage of the loss of time occasioned by crossing a line, or of the peculiar formation which it is necessary to adopt in crossing it.

B. Dress of Spectators and Umpires.

Officers not on duty wear no sashes.

Umpires wear sashes, and a white band round the left arm above the elbow.

APPENDIX III.

Distribution of the Time allotted to Peace Manœuvres.

I. Army corps, which do not attend the large autumn manœuvres, meet for drill and simple field exercises as follows :—

(1.) Regiments of infantry for eight days; regiments of cavalry for a fortnight.

(2.) Brigades of infantry or cavalry for five days.

The above periods include Sundays and any other days of rest.

The brigades are to have artillery attached to them during the last few days of the exercises.

The battalions of rifles (Jägers) take part or not, in the brigade drill of the infantry, at the discretion of the general commanding.

If it should appear desirable to give officers commanding regiments of cavalry an opportunity of commanding a brigade, the generals in command are authorised to reduce the regimental drills by two days, and to prolong the brigade drills proportionately.

(3) Divisions meet for eleven days' exercise.

The whole of the infantry and cavalry of the division is to be concentrated for exercise. The battalions of rifles, the field artillery, a portion or the whole of the pioneers, and a detachment of the train, are attached to the divisions at the discretion of the generals commanding, so that all the field troops of the corps may be enabled to participate in these divisional exercises.

Garrison duties are performed during this period by the smallest detachments possible.

The eleven days' exercise for a division, deducting two days of rest, are to be employed in the following manner :—

(*a.*) Three days for field exercise and outpost duties, the division being split up into two separate bodies, each composed of detachments of all arms of the service, and commanded by generals of brigades.

The main body goes into cantonments; the outposts (advanced guards) of both sides, bivouac. The duties are to be distributed in such a manner that the men remain on outpost duty for three nights consecutively, and that each body of troops shall bivouac at least once. An exception to this rule may be made in favour of the artillery, pioneers, and train, who need not be required to bivouac.

(*b.*) Field manœuvres of the division in two separate bodies for three or four days.

(*c.*) Field manœuvres of the entire division against a sup-

posed enemy, and inspection by the general commanding, to last two or three days.

(*b*) and (*c*) are, together, to take six days.

Two bivouacs of the whole division may be arranged for the periods (*b*) and (*c*), whilst the outposts (advanced guards), amounting to one-third of the entire force, are permitted to bivouac during the period (*b*), when the main force goes into cantonments.

On all other occasions the troops go into cantonments.

Where local circumstances permit, and no considerable extra expense would be incurred, the generals commanding may manœuvre two entire divisions against each other, during the period allowed for divisional exercise, on communicating previously with the War Office.

II. Army corps holding great autumnal exercises, also go through the exercises indicated above, but with the following modifications.

(*a.*) The divisional exercises extend over seven days only, being three days of field manœvures and one day of rest less than in the case of an independent division.

(*b.*) The bivouacs are limited to the first three days, and each body of troops is to go into bivouac once.

These seven days' divisional exercises are succeeded by those of an army corps, and eventually of two army corps operating against each other, the extent of these exercises being regulated separately for each case.

III. The localities in which the troops are to be concentrated are to be so selected that the marches between the exercises and back to garrison are not longer than necessary. Care must, at the same time, be taken to vary the scene of the manœuvres, not only in the interest of the troops themselves and their instruction, but also in that of the villages in which they have to be quartered.

APPENDIX IV.

Reports, Returns, &c.

1. On His Majesty's orders with reference to the autumnal exercises being issued, the generals commanding army corps send to the War Office the following statements for approval:

(*a.*) Distribution of the time for the autumnal exercises of their army corps according to Form 1, not later than June 1st.

(*b.*) Estimate of extra expenses caused by the autumnal exercises of the army corps, according to Form 2, as soon as ready.

2. In those years in which several army corps meet for

autumnal exercises the following documents must be sent to the War Office on or before August 1st, in order that they may be submitted to His Majesty for approval, viz.:—

(*a.*) General plans for the manœuvre of the corps against an imaginary enemy.

(*b.*) The order of battle, in accordance with Appendix I of the plan for the mobilisation of an army corps.

(*c.*) Diagram showing the army corps in review order, according to Form 3.

The above documents are copied out after they have been sanctioned by His Majesty, and three copies of each are given to His Majesty's aide-de-camp in waiting.

3. When several army corps are to be concentrated for combined manœuvres the general plan of the manœuvres is to be placed before His Majesty by the chief of the general staff of the army on or before the 15th of April.

Generals commanding army corps will be informed by the War Office of the arrangements which are finally adopted; the chief of the general staff will communicate to them the general plan of the manœuvres; any special instructions are issued from day to day during the course of the manœuvres.

4. Generals commanding are permitted to apply to the Topographical Department of the General Staff, for one copy per officer of that sheet of the Government map, on which the proposed field of manœuvres is represented, and which is furnished to them at half the price at which it is published.

Generals commanding also procure mounted maps for any Royal Princes or other distinguished persons who may be present during the manœuvres, as well as for foreign officers whose names are communicated to them by the War Office. A special charge is made to cover the expense of providing these maps.

Any special maps which may be required for manœuvres conducted in the presence of His Majesty, are furnished by the chief of the general staff, who procures authority from the War Office to incur the necessary expenditure.

5. If His Majesty desires to inspect the troops which are concentrated for the manœuvres, a statement of the effective strength of the troops to be inspected is to be handed to His Majesty on his arrival on the ground, by the senior officer present on duty.

If orders are issued for a grand review, a diagram showing the position of the troops (as shown on Form 3), is furnished to His Majesty the day before the review, or on His Majesty's arrival on the ground. This is done even if the diagram referred to in 2 *c* has been already approved by His Majesty.

On the day before the commencement of the field manœuvres the general plan of operations together with the special plan for the first day's manœuvre, accompanied by a statement of the distribution of the troops are to be submitted to His Majesty. The names of the generals commanding on

each day, and those of the umpires, are communicated at the same time.

The special plans for subsequent days are communicated to His Majesty as early as possible.

Generals commanding are to make their dispositions as early as possible, and to send them to His Majesty, as a rule, on the evening of the day before they are to be carried into effect.

The statement showing what are their intended dispositions, is to be invariably accompanied by a statement showing the distribution of the troops according to Form 4.

Copies of the documents furnished to His Majesty are supplied to the Minister of War, to the chief of the General Staff, and to His Majesty's aide-de-camp in waiting, if all these officers are present.

At the commencement of a grand parade, the general commanding, hands to His Majesty a "field state," and a statement showing the order of march, which latter contains the names of all officers commanding regiments, &c., in the order in which they will march past.

A similar statement, containing the names of all the principal officers and the posts they hold, should be handed to His Majesty's aide-de-camp in waiting, if possible, on the previous day.

6. The general and special plans of operation, and, if possible, the dispositions made, and other returns, are to be lithographed if there is sufficient time to do so, and copies are furnished to the superior officers present at the manœuvres as spectators.

Documents (exclusive of reports) furnished to His Majesty, and intended to be used in the field, must be written or printed on stout paper, in quarto or octavo. No margin is required.

7. The officer directing the manœuvres will take care that copies of the special plans of operation which may be adopted from time to time, and also copies of the dispositions made by the generals in command, are furnished to the umpires.

8. Army corps which do not take part in the great autumnal field manœuvres in the presence of His Majesty, are to furnish the War Office, on or before the 15th of November, with a concise report, in accordance with Form 5, which must contain information on the autumnal exercises of the divisions, the efficiency of officers and men, &c.

Special reports on exercises performed in the presence of the general commanding the corps may be appended. They must contain:—

(*a.*) The plans on which the manœuvres were based.

(*b.*) The dispositions of the officer commanding each side.

(*c.*) A concise account of the manœuvres.

(*d.*) Sketches of the ground.

The opinion of the officer directing the manœuvres, or of

the general commanding the army corps, is to be given in marginal notes if possible.

9. In those years in which grand autumnal exercises take place in the presence of His Majesty, the generals commanding the corps, in addition to the reports mentioned in paragraph 8, furnish the chief of the General Staff with the special reports of all officers who held an independent command of troops on each day of the manœuvres.

Form 2.

Statement of Extraordinary Expenses caused by the Autumnal Exercises of the ___th Army Corps, in 18 .

	Number of Division.	Vote 20 Pay.	Vote 23 Rations.	Vote 28. Section V. General Expenses	Vote 30. Section II. Drill Grounds, and Costs of Manœuvres.	Vote 32. Allowances.	Votes 33 to 36. Hospital Expenses	Vote 43. Travelling Expenses and Freight.	Total.	Remarks.
		Thlr. Sgr.	Thlr. Sgr.	Thlr. Sgr.	Thlr. Sgr.	Thlr. Sgr.	Thlr. Sgr.	Thlr. Sgr.	Thlr. Sgr.	
1	—th Division									Expenses not included under the head of any special vote are to be mentioned in the column of Remarks.
2	—th Division									
3	&c., &c.									Special statements as regards some of the votes are to be appended to this General Return, according to the forms given on the following pages.
	Total									

th 187 .

Pro calculo,

N. N.

Appendix I to Form 2.

Statement of Extraordinary Expenses caused by the Autumnal Exercises of the Division in 18 .

Vote 20. "PAY."

No.	Name of Regiment, &c.	Command Allowance.		Pay of Men called out in excess of the regular peace establishment, to fill up vacancies caused by illness, &c.		Bonus given at the Review. (Revue-Geschenk)		Remarks.
		Thlr.	Sgr.	Thlr.	Sgr.	Thlr.	Sgr.	
	Total of Vote 20							

th 187

Pro calculo,

N. N.

Statement of Extraordinary Expenses caused by the Autumnal Exercises of the __th Division, 18 .

Vote 23, "RATIONS."

1	2.	3. Extraordinary Expense incurred for Bread.		4.	5.	6. Extra Expenses incurred for Meat, &c.		7.	8.	9.	
No.	Name of Regiment, &c.	On the March.	In Cantonment, Bivouac, &c.	Extraordinary Expense incurred for Forage.	Total of Columns 3 and 4.	On the March.	In Cantonments, Bivouac, &c.	Refreshment Allowances and Pay for the 31st day of the month.	Total of Columns 6 and 7.	Total extra expense for Rations.	Remarks.
		Thlr. Sgr.	Thlr. Sgr.	Thlr. Sgr.	Thlr. Sgr.	Thlr. Sgr.	Thlr. Sgr.	Thlr. Sgr.	Thlr. Sgr.	Thlr. Sgr.	
1											
2											
3											
&c.											
	Total										

th 18 . Pro calculo,

N. N.

REFERENCE. This statement is merely intended to exhibit the excess of expenditure as compared to the usual garrison expenses.

In ascertaining the extra expense incurred for bread, a distinction is to be made between the allowance in lieu of bread, when on the march, and the bread furnished in kind. when in bivouac, &c.

The extra expense of forage is caused by the issue of "Marching Rations" on the march and during the manœuvres, the issue of extra rations of oats, &c.

The extra expense for meat, &c., results from the grant of a marching allowance, and of rations, in lieu of the mess allowance when in garrison.

The expenses incurred for refreshment allowances, for pay on the 31st day of the month, for carriage and freight incurred on account of supplies, &c., are to be stated in full.

Savings effected in comparison to the usual garrison expenses are to be given in red figures.

Exceptional allowances not generally allowed by the regulations, are given in the column of remarks.

Appendix III to Form 2.

Statement of Extraordinary Expenses caused by the Autumnal Manœuvres of the —th Division, in 18 .

Votes 28, 30, and 32 of the Army Estimates.

GARRISON ADMINISTRATION, EXPENSE OF MANŒUVRES, ALLOWANCES.

1	2	3	4			5	6
		Vote 28, Section 5, —	Vote 30, section 2.			Vote 32. —	
No.	Regiments, &c,	Total Expenditure.	Wood for quarters, and for kitchens.	Straw for Bivouacs.	Injury done to fields.	Allowances.	Remarks.
		Thlr. Sgr.	Thlr. Sgr.	Thlr. Sgr.	Thlr. Sgr.	Thlr. Sgr.	Reference :— 1. Vote 28, section 5, includes the expense of disinfecting private stables in which diseased public horses had been placed. 2. Money obtained by the sale of wood or straw is to be deducted from the expenditure, and credited in the statement. 3. All extraordinary expenses incurred under the head of allowances are to be shown. The ordinary allowances granted to men of the Reserve, who have been called out to replace men in hospital or on detached duty, are shown. 4. Any other expenses incurred under the above heads are to be specially stated.

th 187 Pro calculo,

Statement of Extraordinary Expenses caused by the Autumnal Exercises of the th Division, in 18 .

Votes 33 to 36 of the Army Estimates.

HOSPITALS.

No.	Regiments, &c.	Names of Cantonments.	Vote 33. Personal Expenses.	Vote 34, Section 1. Rent, fuel, light, and rations.	Vote 34, Section 2. — Medicines.	Vote 35, Section 1. — Building Expenses.	Vote 35, Section 2. — Furniture (new purchases and repairs).	Total.	Remarks.
			Thlr. Sgr.	Thlr. Sgr.	Thlr. Sgr.	Thlr. Sgr.	Thlr. Sgr.	Thlr. Sgr.	All expenses connected with the establishment of Military Hospitals in cantonments are to be shown in this statement. 2. Receipts, if any, are to be deducted from the expenses incurred, and must appear in the statement.
	Total								

th 18 .

Pro calculo,

N. N.

Statement of Extraordinary Expenses caused by the Autumnal Exercises of the ____th Division in 18 .

Vote 43 of Army Estimates. "TRAVELLING EXPENSES; FREIGHT."

1. No.	2. Regiments, &c.	3. Travelling Expenses and Allowances.	4. Cost of Railway Transport.	5. Cost of hired Waggons and Boats.	6. Cost of hired Horses.	7. Postage and Porterage.	8. Total.	Remarks.
		Thlr. Sgr.	Thlr. Sgr.	Thlr. Sgr.	Thlr. Sgr.	Thlr. Sgr.	Thlr. Sgr.	
1								REFERENCE. In addition to the expenses incurred during the manœuvres and on the march, those incurred for reconnoissances, or by reason of injury done to fields, &c., are to be shown.
2								
3								
	Total							

th 18 . Pro calculo,

Form 3

ANTRY BRIGADE.

ral .....

2nd East Prussian Grenadiers.

Colonel.....

F. Maj. II. Maj. I. Maj.

1ST INFANTRY BRIGADE.

Major-General .....

5th East Prussian Infantry.

Colonel.....

F. Maj. II. Maj. I. Maj.

1st East Prussian Infantry.

Colonel.....

F. Maj. II. Maj. I. Maj.

1ST CAVALRY BRIGADE.

Major-General.....

Lithuanian Uhlans.

Colonel.....

Lithuanian Dragoons.

Colonel .....

East Prussian Cuirassiers.

Colonel.....

1st Squadron.
2nd „
3rd „
4th „
5th „

Line which does not consist exclusively of troops belonging to his own arm.

(Signed) ... .

Reserve Artillery of Corps	Colonel N.
The Field Division of the —th Regiment of Field Artillery	Major E.
—th Horse Battery of the —th Regiment of Field Artillery.	
—*th Division of Cavalry*	Major-Gen. E.
—th Cavalry Brigade	Colonel K.
—th Regiment of Dragoons . . .	Colonel M.
—th Regiment of Curassiers . . .	Lieut.-Col. C.
—th Cavalry Brigade	Major-Gen. T.
—th Regiment of Dragoons . . .	Colonel L.
—th Regiment of Uhlans	Lieut.-Col. B.
—th Horse Battery of the —th Regiment of Field Artillery.	

Note. 1. The Distribution of the Troops, as given permanently by the order of battle, is to be retained as far as possible.

2. The order in which the troops belonging to the advanced guard and main body are mentioned does not determine their order of march.

3. A reserve would have to be formed in case of an engagement, according to circumstances.

4. An officer to command the main body permanently is not to be appointed. The senior general officer present with the main body would take the command during the absence of the general commanding the corps.

Form 5.

REPORT

On the Autumnal Exercises of the —th Division in the Year 18 .

1. Distribution of time.	State whether the exercises were carried on strictly in accordance with the plan sanctioned on the —th, or whether changes were made, and the reasons for making them.
2. Strength of the troops which took part in the exercises.	State the strength of the regiments, &c., on the termination of the exercises. Considerable deviations from the established strength should be explained.
3. Condition of the troops.	
4. Plan and execution of the exercises.	
5. Supply services (commissariat),	
6. Sanitary condition.	Give the number of sick at the commencement of the regimental drills, and on the termination of the exercises.
7. Special remarks.	

THE ELEMENTARY TACTICS

OF THE

PRUSSIAN INFANTRY.

(TRANSLATED FROM THE GERMAN AT THE TOPOGRAPHICAL AND STATISTICAL DEPARTMENT OF THE WAR OFFICE, BY LIEUTENANT E. BARING, ROYAL ARTILLERY.)

LONDON:
PRINTED FOR HER MAJESTY'S STATIONERY OFFICE,
BY HARRISON & SONS,
Printers in Ordinary to Her Majesty.

1871.

(525 wo)

PREFACE.

THE following pages are an abridged translation of a portion of the "Taktik nach der für die Konichlich Preussischen Kriegschulen vorgeschriebenen 'genetischen Skizze,' ausgearbeitet von H. Perizonius; vierte, neu redigirte Auflage von F. A. Paris, General-Major."

TOPOGRAPHICAL AND STATISTICAL
DEPARTMENT OF THE WAR OFFICE.

August 1871.

INDEX.

PAGE

I. PRELIMINARY REMARKS 1

II. FORMATIONS IN CLOSE ORDER 3

A.—INFANTRY.

1. *Formations in Line:—*

(*a*) The Company in Line 7

(*b*) The Battalion in Line in Three Ranks 8

(*c*) The Battalion in Line with Divisions of Skirmishers formed in Rear of the Flanks 9

2. *Formations in Column:—*

(*a*) Column of Attack, each Division being in Three Ranks .. 11

(*b*) Column of Attack, with Divisions of Skirmishers formed .. 13

(*c*) The Battalion Square 13

(*c* 1) Formation of Square from Column of Attack, each Division being formed in Three Ranks 15

(*c* 2) Formation of Square from Column of Attack, with Divisions of Skirmishers formed in Rear of the Column 16

(*d*) Company Column 18

(*e*) Company Square 19

(*f*) The Battalion in Company Columns 20

(*g*) Column of Divisions 21

(*h*) Column of Sub-divisions 21

(*i*) Column of Sections 22

(*j*) Marching in File 22

B.—RIFLES.

1. *Formations in Line:—*

(*a*) The Company in Line 23

(*b*) The Battalion in Line 23

2. *Formations in Column:—*

(*a*) Company Column 24

(*b*) Company Square.. 24

(*b* 1) Company Square from Company Column of Four Sub-divisions.. 25

(*b* 2) Company Square from Company Column of more than Four Sub-divisions 25

(*c*) The Battalion in Company Columns 25

(*d*) The Battalion Square 25

PAGE

III. MANŒUVRES IN CLOSE ORDER 26

1. *Movements in Line* 27
(*a*) Advancing in Line 27
(*b*) Retreating in Line 27
(*c*) Oblique March 27
(*d*) Breaking off Divisions on the March 28
(*e*) Change of Front.. 28

2. *Formations of Column from Line* 28
(*a*) Formation of Column of Files from Line 29
(*b*) Formation of Open Column from Line 29
(*c*) Formation of Close Column of Divisions from Line 29
(*d*) Formation of Column of Attack from Line 29
(*e*) Formation of Company Column from Line 29

A.—INFANTRY.

(*a*) Formation of Company Columns from Line in Three Ranks 29
(β) Formation of Company Columns from a Battalion in Line with Divisions of Skirmishers formed in Rear of the flanks of the Battalion 30
(γ) Formation of Company Column of Sub-divisions from Company Column of Divisions 30

B.—RIFLES.. 30

3. *Movements in Column, and Changes from one Form of Column to another:—*

A.—Movements in Column:—
(*a*) Movements in File 31
(*b*) Movements in Open Column 31
(*c*) Movements of a Close Column of Divisions 32
(*d*) Movements of a Column of Attack 32
(*e*) Movements of a Square 33
(*f*) Movements of Company Column 33
(*g*) Movements of a Company Square or Rallying Square .. 33

B.—Changes from one Form of Column to another:—
(*a*) Opening out and Closing 33
(*b*) Countermarch of an Open Column of Divisions . .. 34
(*c*) Formation of Column of Attack from Close Column of Divisions.. 34
(*d*) Formation of Column of Attack from Open Column of Divisions, Sub-divisions or Sections 35
(*e*) Formation of Close Column of Divisions from Column of Attack 35
(*f*) Formation of Square from Column of Attack 36
(*g*) Formation of Column of Attack from Square 36
(*h*) Formations of Company Columns from Column of Attack .. 36
(*h* 1) Formation of Company Columns from Column of Attack, the Divisions being formed in Three Ranks 37
(*h* 2) Formation of Company Columns from Column of Attack with Divisions of Skirmishers formed .. 37

PAGE

(*i*) Position of Company Columns with respect to each other under various circumstances 37
(*j*) Formation of Column of Attack from Company Columns .. 39
(*k*) Formation of Company Columns from Column of Divisions. 39

A.—INFANTRY 39

B.—RIFLES 39

4. *Formation of Line from Column* :—
(*a*) Formation of Line from Column of Files 40
(*b*) Formation of Line from Open Column of Divisions, Sub-divisions or Sections 40
(*c*) Formation of Line from Close Column of Division 41
(*c* 1) Deployment on the Leading Division 41
(*c* 2) Deployment on the Rear Division 42
(*c* 3) Deployment on a Central Division 43
(*d*) Formation of Line from Column of Attack 43
(*d* 1) Deployment of a Column of Attack when Halted on the two Centre Divisions 43
(*d* 2) Deployment of a Column of Attack on the Move .. 44
(*d* 3) Deployment of a Column of Attack on one of the Rear Divisions 44
(*e*) Formation of Line from Company Column 44

IV. FORMATIONS IN OPEN ORDER.

1. *General Principles* 45
2. *Formation of the Divisions of Skirmishers* 46
(*a*) Formation of the Divisions of Skirmishers from Column of Attack 47
(*b*) Formation of the Divisions of Skirmishers from a Battalion in Line 48
(*c*) Formation of the Divisions of Skirmishers from Column of Divisions, Sub-divisions, or Sections 48

3. *Formation of the Line of Skirmishers* :—

A.—INFANTRY :—

(*a*) General Principles 49
(*b*) Formation of the Line of Skirmishers from Company Column 49
(*c*) Formation of the Line of Skirmishers from Column of Attack 50
(*d*) Formation of the Line of Skirmishers from the Battalion in Line 51

B.—RIFLES :—

(*a*) Formation of the Line of Skirmishers from Company Column 51

V. MOVEMENTS IN OPEN ORDER 52

INDEX TO PLATES.

PLATES.		TO FACE PAGE
I.	Table of Conventional Signs	1
II.	Company in Line. Battalion in Line in Three Ranks. Battalion in Line with Divisions of Skirmishers formed in Rear of the Flanks	8
III.	Column of Attack. Column of Attack with Divisions of Skirmishers formed	12
IV.	The Battalion Square	16
V.	Company Column	18
VI.	Company Square..	19
VII.	Battalion in Line of Company Columns. Column of Attack, each Company being in Company Column	20
VIII.	Company in Line (Rifles)	23
IX.	Company Column (Rifles)	24
X.	Company Square (Rifles)	25
XI.	Battalion in Line of Company Columns of Sub-divisions (Rifles)	25
XII.	Battalion Square (Rifles)	26
XIII.	Formation of Company Columns from Line	30
XIV.	Formation of Column of Attack from Close Column of Divisions	35
XV.	Formation of Close Column of Divisions from Column of Attack	36
XVI.	Formation of Company Columns from Column of Attack ..	37
XVII.	Formation of Company Columns from Column of Divisions .	39
XVIII.	Formation of Line from Close Column of Divisions	42
XIX.	Formation of the Divisions of Skirmishers from Column of Attack	47
XX.	Formation of the Divisions of Skirmishers from a Battalion in Line. Formation of the Divisions of Skirmishers in Column of Sub-divisions	48
XXI.	Formation of the Line of Skirmishers from Company Column. Company Column with Line of Skirmishers formed ..	50
XXII.	Formation of the Line of Skirmishers from Column of Attack. Column of Attack with Line of Skirmishers formed. Column of Attack with Skirmishers on the Flanks	50
XXIII.	Formation of the Line of Skirmishers from the Battalion in Line	51
XXIV.	Formation of Line of Skirmishers from Company Column (Rifles). A Company of Rifles in Company Column of Sub-divisions covered by a Line of Skirmishers..	51

Table of Conventional Signs.

Officer Commanding Batalion.

Adjutant.

Captain.

First-Lieutenant.

Senior Second-Lieutenant.

Second Senior Second-Lieutenant.

Third Senior Second-Lieutenant.

Serjeant-Major.

Ensign (Portépée-fähnrich) or
Acting Serjeant-Major.

Right Marker.

Left Marker

Supernumerary Non-Commissioned Officer

Colors.

Musicians

Bugler.

ELEMENTARY TACTICS OF PRUSSIAN INFANTRY.

I. PRELIMINARY REMARKS.

Distinction between Elementary and Applied Tactics.

It is the object of elementary or formal tactics (Formelle Taktik) to devise certain principles and normal formations for the movement of troops and for their disposition in action, which shall serve as a basis for applied, or, as they are sometimes called, higher or intellectual tactics (Angewandte Taktik).

The study of these elementary formations takes place on the parade-ground, and may be said to be almost purely mechanical; only a very slight degree of individual intelligence and resource is required in order to arrive at a perfect knowledge of them. The study of tactics, however, in the higher and more general acceptation of the term, should not be limited to the acquisition of a knowledge of these primary and elementary formations, but should be extended to a thorough acquaintance with the circumstances under which the employment of any special formation will be rendered necessary. It may be laid down as a general principle that the faculty of adopting the formation of troops to the case in hand is of quite as great importance as a thorough knowledge of the various formations which it is possible to adopt. The application of this principle affords scope for the play of individual intelligence of a far higher stamp than that which is required to learn the mere mechanism of drill.

Elementary formations do not decide the fate of a battle, but rather the intelligence (Geist) with which they are employed. The tendency of modern tactics is to amalgamate and simplify elementary formations as far as possible, and to establish the closest connection between the movements of all the parts of an army: hence a skilful and intelligent employment, on the field of battle, of the formations which the soldier has been taught to adopt on the parade-ground becomes daily of more importance.

The Tactical Unit.

The battalion is the Infantry tactical unit, that is to say, it is the smallest body of men which is employed independently. Inasmuch, however, as a special order of battle—the company column—is constantly adopted, it results that the company is to a certain extent independent, and is itself often considered as the tactical unit. Strictly speaking, Riflemen (Jägers) are the only troops with which the company should be regarded as the unit; a battalion of Riflemen is rarely united in action.

Many different opinions are entertained as to the proper strength of a battalion. The Commanding Officer should be able to make his voice thoroughly well heard by the whole battalion when deployed in line; on the other hand, the battalion should be sufficiently strong to enable it to act independently, even after it has suffered considerable losses.

As a rule, 800 men may be regarded as the minimum, and 1,200 as the maximum strength of a battalion.

The Prussian battalion, when raised to a war establishment, consists of 1,002 men, exclusive of officers; 4 hospital assistants, and about 20 other non-combatants, are attached to each battalion. In Russia the battalion consists of 1,000 men, in Austria of 900, in France of 800, and in Italy of 700.

ıor isions of Battalion.

Every battalion is divided into companies. In most Armies this arrangement is to be regarded as chiefly administrative, and connected with the interior economy of the regiment. It is only in those Armies in which the company column is employed that the arrangement of a battalion into companies can be considered as tactical.

The number of companies in a battalion varies very much in different Armies. The Prussian battalion consists of 4 companies; each company consists of—

1 Captain,
1 First Lieutenant,
3 Second Lieutenants,
20 Non-commissioned Officers,
4 Musicians,
226 Privates,

making a total of 5 officers and 250 men. Each company consists of 2 divisions (Züge), which are numbered from 1 to 8, according to the position which the division occupies when the battalion is deployed. Divisions of 20 files and upwards are again split up into sub-divisions (Halbzüge) and sections (Sectionen). Divisions of less than 20 files are only divided into sections.

A company of Rifles, if consisting of less than 64 files, is formed in 2 divisions, which are invariably divided into subdivisions and sections. If the company consists of more than 64 files it is formed into 4 divisions.

Sections should never consist of less than 4 or of more than 6 files.

Four files are usually calculated to occupy a front of three paces. In actual practice, however, it is better to allow a pace to each file. A battalion of 1,000 men deployed in triple rank would therefore require a frontage of about 300 paces.

A space of 2 feet is allowed between the ranks, that is from the back of the front-rank to the breast of the rear-rank man.

ler of ttle.

The number of ranks in which Infantry should be ranged has given rise to much discussion. It is unnecessary to allude

to the arguments which have been advanced in support of a triple rank, for the campaign of 1866 proved abundantly that, for all Infantry armed with breech-loaders, the double is to be preferred to the triple rank. The Prussians have fully recognized this fact; their Infantry is still ranged in three ranks; this formation, however, is only adopted on parade; in action the third rank is always employed to skirmish.

Riflemen (Jägers) are never ranged in three ranks.

II. FORMATIONS IN CLOSE ORDER.

Comparativ Advantages and Disadv tages of Li and Colum

Infantry can be formed in close order in the following manner:—

1. In Line.
2. In column.

When a battalion in line comes into action, the divisions of Sharpshooters (Schützenzüge) would no longer occupy the third rank, but would either be dispersed as skirmishers or formed up in rear of the flank companies.

A column may be either—

(*a.*) A Double Column of Divisions formed on the two centre divisions. This is the "Column of Attack" (Angriffs-Colonne) for a battalion.

(*b.*) A Square, which is a purely defensive formation against Cavalry.

(*c.*) A Company Column, which can be used as a column of attack or defence for a detached company, or for a battalion separated into company columns. Company columns can form square independently.

The following are the relative advantages of these formations:—

Line admits of the simultaneous action of all the men engaged; a shot or shell causes fewer losses in a line than in a column, on account of its comparatively slight depth; the formation in line allows of a comparatively large extent of ground being defended. But these advantages are allied to considerable disadvantages. A man's voice is not usually sufficiently powerful to make itself heard along an extended line. Order and symmetry are difficult to maintain, especially in moving over broken ground where many natural obstacles are to be encountered. When acting on the offensive, that is to say, when a bayonet attack is made, a line does not possess sufficient weight. It is exposed to attacks from Cavalry; its flanks are exposed; it offers a wide mark to musketry fire, case and Shrapnel Shells, and suffers in proportion, especially when the ground does not afford much natural cover.

On the other hand, in a close column the Commanding Officer has his troops more in hand, and it is consequently easier to maintain order. The formation in column is much more compact than that in line; each column forms an independent whole; disorder, if it arises, can be readily confined to one column, and its spread to others checked. A column, owing to its narrow front, is more easily moved than a line; comparatively speaking, it meets with fewer natural obstacles, and can surmount or turn such obstacles with little difficulty. For offensive purposes it possesses a considerable power for forcing the enemy's ranks (Einbruchskraft), for its mass not only exerts a large degree of physical force, but also acts upon the "moral" of the individuals composing it. A column opposed to Cavalry possesses sufficient inherent strength to resist attack, as it can defend its own flanks; it possesses a power of resistance which cannot be successfully overcome by Cavalry, so long as the troops are unshaken, and maintain their position with firmness.

The effect of artillery, taking into account only the projectiles which hit, is more destructive to a column than to a line; but, on the other hand, the target offered to the enemy is smaller, and advantage can more readily be taken of the accidents of the ground to obtain shelter. Its mobility and comparative independence of the nature of the ground renders a column more suitable than a line for acting as the support of troops extended in skirmishing order. Lastly, it is easier to conceal one's strength in columns, even where the ground is open, for the number of battalions in the field cannot easily be recognized if they are massed in compact columns of great depth.

However great these advantages may be, the disadvantages of the column formation must not be overlooked. Its principal defect is that the number of men available for individual simultaneous action, whether with the rifle or the bayonet, is comparatively small. In a hand to hand combat this is of less importance, for the advantages of the column in such a case more than counterbalance this disadvantage, but when the opposing forces are at a distance from each other, column is no match for line. Shot and shell produce great havoc in a column. Lastly, marching in column, especially during hot weather and on dusty roads, is very fatiguing.

From the above-mentioned characteristics of the two formations in close order—viz., line and column—their mutual bearing on the incidents of a battle-field may be readily conceived.

When the enemy is at a distance, but still within range of musketry fire, it is essential to bring the largest possible number of men simultaneously into action. Line is consequently the most favourable formation in close order under such circumstances. On the other hand, when a position has to be carried at the point of the bayonet, column is employed; the most essential requisite in close column is mobility, to which may be added facility for obtaining cover, and the necessity of exposing as small a target as possible to the enemy's fire. The possibility

of bringing a larger number of bayonets to bear simultaneously upon the enemy must be regarded as secondary to these considerations, especially as actual physical force has rarely to be applied, the moral effect of a continued advance being in most cases decisive. Column is therefore the formation most suitable for a bayonet attack.

During the last century, when battles were fought on wide plains, and the Infantry confined itself almost entirely to firing in close order, the formation in open order being scarcely ever employed, line became naturally the predominant formation on the battle-field. During this period Infantry were usually ranged in two long lines; the Cavalry stood on the wings, and the Artillery was distributed along the entire front. There was no reserve. The art of moving these long thin lines in unison with each other acquired subsequently the name of "Linear Tactics." It was this art of which Frederic the Great availed himself; his brilliant victories were gained chiefly through his superior skill in manœuvring his army as opposed to the passive immobility of his enemy; the fire of his Infantry was also comparatively rapid, and he possessed a marked superiority in the efficiency of his Cavalry.

The wars of the French Republic and of the Empire brought about vast changes in these tactics. The advantages of fighting in open order were clearly demonstrated; this method of fighting, moreover, was more suited to the national character of the French. Careful skirmishing became the rule; volleys, which were fired only to repel an attack, the exception. Manœuvres in long lines were abandoned; the order of battle was broken up into separate parts, and adapted to the natural features of the ground. Dense swarms of skirmishers were followed by close columns, who threw themselves upon the weak points of the enemy's position, and consummated the work which had been commenced by the skirmishers; an intimate connection was thus established between open and close order. Battles were no longer fought only on wide plains; broken country (which under the old system was carefully avoided) was sought out, as being the most favourable to the new system of warfare.

Whilst Napoleon I. developed this system in the French Army, the Prussians retained their ancient formations. Sharpshooters were introduced into their Army in 1787, and subsequently the third ranks of some regiments were taught skirmishing, but a combat in open order (Schützengefecht) was as yet unknown; neither was it considered necessary to adapt the formation of troops to the peculiar features of the ground, nor to employ columns for the attack of a position.

These defects were not remedied until after the Prussian Army had suffered severe defeat at the hands of the mobile lines of skirmishers and the columns of the French. A Commission, of which Schamhorst was the guiding spirit, was appointed after the peace of Tilsit to consider what reforms were necessary. The practical results of the appointment of

this Commission was the issue of the Regulations of 1809, which were subsequently replaced by those of 1812. The latter, which are unsurpassed in lucidity and simplicity, remain to this day the fundamental principles on which the elementary tactics of the Prussian Infantry are based. These principles may be briefly stated as follows:—An intimate connection should be maintained between column, line, and skirmishers; columns should be employed in taking up a position, in manœuvring, and in support of skirmishers; also in connection with skirmishers, when it is necessary to carry a position at the point of the bayonet, or to resist Cavalry. Deployments into line should take place as soon as the columns come within range if the enemy's musketry fire. Line may be employed in exceptional cases in the attack of a position when the distance to be passed over is small, and when the enemy has been much shaken; in this case a volley should be delivered immediately before the charge commences. The third rank should be used as skirmishers.

The proper combination of troops fighting in open and close order was systematically and carefully developed during the period of peace succeeding the wars of Napoleon. It was recognized as a defect that the battalion was not capable of tactical subdivision, and that only one-third of the battalion was allotted to fight in open order. Combats in difficult country, in villages and forests, had played an important part in the campaigns of 1813 to 1815; these rendered a more flexible and mobile formation a matter of necessity. Such a formation was found in the "Company Column," which was first introduced into the Prussian Drill Regulations of 1847; but its application was restricted so long as the whole of the Infantry were not armed with needle-guns. Of late this formation has been found to meet all requirements of modern war, to such a degree that its introduction as the fundamental unit for Infantry has been occasionally advocated.

'antages of Company umn.

The special requirements of modern tactics necessitated by the improvements in fire-arms are as follows:—(1.) The closest possible connection between open and close order. (2.) The power of passing as rapidly as possible from a formation in which the rifle plays the principal part to one in which the bayonet comes into play; in other words the power of deploying into line and reforming column with the utmost rapidity. (3.) Great mobility. (4.) The diminution, as far as possible, of the targets presented to the enemy's fire. (5.) The most intelligent use of the natural advantages afforded by the configuration of the battle-field.

It is clear that small columns of half-battalions or companies, fulfil these requirements to a greater degree than large ones. A company column can be handled with greater facility than a column of companies; it deploys more rapidly into line, and returns as quickly to its original formation. Its independent power of resistance is sufficiently great; it offers a smaller mark to the enemy's fire; it can adapt itself more

easily to the features of the ground, and admits of the most favourable combinations of open and close order. The mutual support which company columns can render to each other, and their harmonious action, conduce to heighten the power of Manœuvre (manövrirfähigkeit) and development of the strenght of the entire battalion. Detached company-columns do not, however, possess the same inherent force as a column of companies; their combined action against one and the same object must consequently take the place of the united action (Massen-Wirkung) of the battalion. For this reason, independent action must be combined, in the highest degree, with a mutual feeling of tactical unity in troops desirous of deriving all the advantages attendant on the proper employment of company-columns. Care must be taken that the division of the battalion into separate and partly independent companies does not lead to undue dispersion (Zersplitterung); the possibility of quickly reuniting all the companies into one column should be carefully maintained.

Before proceeding any further, a few explanatory remarks are necessary. **Explanatory Remarks.**

The 1st, 3rd, 5th, and 7th divisions are called the *odd* divisions, and the 1st and 3rd companies the *odd* companies, of the battalion.

The 2nd, 4th, 6th, and 8th divisions are called the *even* divisions, and the 2nd and 4th companies the *even* companies, of the battalion.

The 1st and 2nd companies are said to be "above the colours" (über der Fahne); the 3rd and 4th companies are said to be "below the colours" (unter der Fahne).

The 1st and 4th companies are called flank-companies; the 2nd and 3rd companies are called centre or colour companies.

A. Infantry.*

1. *Formations in Line.*

(*a.*) The Company in Line (*Plate* II., *Fig.* 1).

The company is ranged in three ranks, the biggest men in the first rank, the most active and the best shots in the third, and the smallest in the second.†

The men of each separate rank are ranged according to

---

* It must be borne in mind that in the Prussian Army a distinction in drill is made between ordinary Infantry regiments (Infanterie) and Rifles (Jägers).—(Translator.)

† The disadvantage of this formation is that the small men in the second rank are hindered in taking aim. On active service, therefore, the men of the first and second ranks are usually arranged according to size, the two biggest men forming the right-hand file, the two next biggest the second file, and so on. The best shots remain in the third rank.

size from right to left, the biggest man occupying the right flank. An interval of two feet is allowed between the ranks.

The company is then divided into two divisions (Züge) of equal strength; if the number of files is uneven, the right division is made the stronger of the two. Divisions are numbered from 1 to 8 according to their position when the battalion is in line. These numbers are always retained, even when the company is acting independently.

Divisions of 20 and more files are divided into sub-divisions, and these latter are again divided into sections. When the division consists of less than 20 files it is only divided into sections; each section must consist of not less than 4, and not more than 6, files.

The Captain stands in front of his company; if necessary a drummer and a bugler remain at his side; the First-Lieutenant stands on the right flank of the even division, which he commands; the Senior Second-Lieutenant stands on the right flank of the odd division, which he commands.

The second Senior Second-Lieutenant stands on the left flank of the company, in line with the first rank; the third Senior Second-Lieutenant stands 4 paces in rear of the centre of the odd division. If there are two supernumerary officers, the senior of the two places himself in rear of the second file from the right flank of the company, the junior in rear of the second file from the left flank of the company.

The right markers of divisions stand in rear of the officers commanding divisions in line with the third rank, or, if there is no third rank, in line with the second rank. The left markers of divisions stand two paces in rear of the second file from the left of their divisions. All other non-commissioned officers are formed in a supernumerary rank two paces in rear of the third rank.

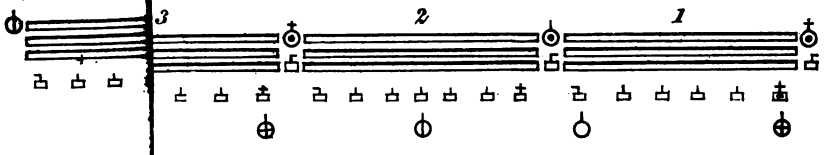
The Serjeant-Major and Ensign (Portépee-fähnrich) stand in the supernumerary rank, the former in rear of the second file from the right flank of the odd division, the latter in rear of the second file from the right flank of the even division.

On parade the musicians are formed in one rank in line with the second rank of the company, and on its right flank at an interval of two paces. In all other cases they are formed in rear of the centre of the company, 8 paces from the rank of supernumerary officers, *i.e.*, 12 paces in rear of the company.

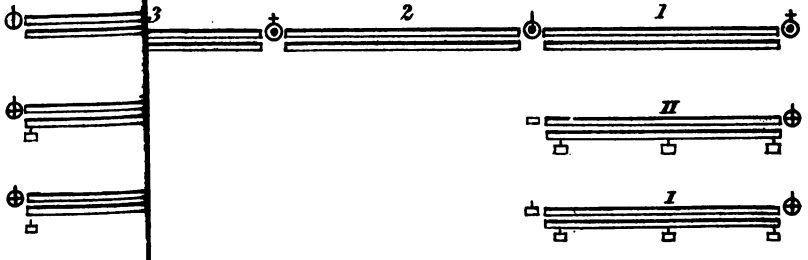
(*b*) The Battalion in Line in three ranks (*Plate* II., *Fig.* 2).

When the battalion is in line the companies stand in numerical order from right to left. The 8 divisions of the battalion are also numbered from right to left; they retain these numbers under all circumstances. Each company is formed as already described with the following exceptions:—The Captains fall in on the right flank of the odd divisions of their companies. The Senior Second-Lieutenant of each company takes up his position in the supernumerary rank of officers in rear of the

PL. II.



rear of the flanks.



second file from the right of the odd division of his company. The third Senior-Second Lieutenant stands in the supernumerary rank in rear of the second file from the left of the odd division. The second Senior Second-Lieutenant of the 4th Company retains his position on the left flank of his company (which is also the left flank of the battalion). The second Senior Second-Lieutenants of the remaining companies stand in the supernumerary rank in rear of the centre of the even divisions of their companies.

The colours occupy a position in the centre of the battalion, *i.e.*, between the 4th and 5th divisions. The non-commissioned officer bearing the colours, supported by two other non-commissioned officers, stands in line with the first rank (Avancir-fahne); in rear of these stand three non-commissioned officers, in line with the third rank (Retirir-fahne). The colour party, therefore, consists of a standard bearer and 5 non-commissioned officers, who remain together under all circumstances.

Drummers and buglers stand 12 paces in rear of the right flank of the 5th division, *i.e.*, 8 paces from the supernumerary rank of officers; the remainder of the band stand 12 paces in rear of the left flank of the 4th division. If the number of buglers and drummers does not exceed 16, they are formed in two ranks; if they exceed that number they are formed in three ranks, the buglers on the right, the drummers on the left. The Drum-Major stands in front of the centre of the drummers and buglers.

The officer commanding the battalion places himself at a suitable distance in front of his battalion; a bugler and a drummer stand at his side.

The Adjutant falls in in rear of the colours, in line with and between the buglers and the band.

(*c*) The Battalion in Line, with Divisions of Skirmishers formed in rear of the flanks (mit formirten Schutzenzügen) *Plate* II., *Fig.* 3.*

The first and second ranks of the battalion are formed in precisely the same manner as previously described; the right markers of divisions and the rear rank of the colour party close up, and stand in line with the second rank.

The divisions of skirmishers, formed of the third rank, stand 6 paces in rear of the flanks of the battalion; the IInd and Ist† divisions of skirmishers in rear of the 1st division of the battalion, the IIIrd and IVth divisions of skirmishers in rear of the 8th division of the battalion; an interval of 6 paces is left between the IInd and Ist division of skirmishers, and between the IIIrd and IVth. The divisions of skirmishers above the

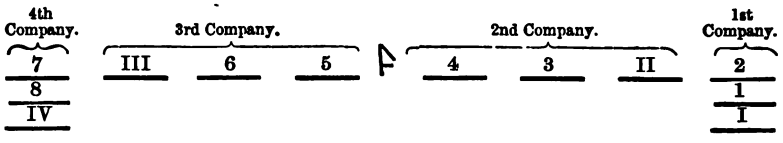
* The arrangement of the supernumerary ranks is not shown in the figure, as it is precisely similar to that shown on *Fig.* 2 of the same plate.

† Roman letters have been used throughout when speaking of the divisions of skirmishers.—(Translator).

colours, *i.e.*, the third rank men of the 4th, 3rd, 2nd, and 1st divisions form in rear of the right flank of the battalion; those below the colours, *i.e.*, the third rank of the 5th, 6th, 7th, and 8th divisions, form in rear of the left flank of the battalion.

Each division of skirmishers is commanded by an officer who places himself on its *outer* flank; hence, in the case of the divisions above the colours, the officer stands on the right flank, and in the case of the divisions below the colours, he stands on the left flank. A Captain who is specially told off for that purpose commands the four divisions of skirmishers. A non-commissioned officer is told off to each section of the divisions of skirmishers. One non-commissioned officer stands on the inner flank of each division, the others stand in a supernumerary rank in rear of each division. A bugler accompanies the Captain commanding the divisions of skirmishers; one bugler is also attached to each of the divisions of skirmishers.

A modification of the formation described above has been suggested; it consists of forming the divisions of skirmishers exclusively of the flank companies of the battalion. This proposed arrangement of the battalion in line is shown in the annexed diagram:—



Under this arrangement the 1st and 4th companies form column of divisions respectively left and right in front, the men belonging to the third rank of each of these two companies forming a separate division in rear of the companies to which they belong. The men belonging to the 3rd rank of the centre companies (*i.e.*, the 2nd and 3rd) form two divisions which take their places in line on the outer flanks of the companies to which they belong; thus the *Fig.* II. in the diagram represents the men belonging to the 3rd rank of the 3rd and 4th divisions, and the *Fig.* III. represents the men belonging to the 3rd rank of the 6th and 5th divisions.

This formation is very similar to that prescribed by the regulations, but it possesses greater pliancy, as the companies are kept together, thereby admitting of a more rapid formation of company columns, and *vice versâ*, of more rapidly uniting the company columns into half battalions* or battalions. Skirmishing is left to the flank companies, consequently half a battalion might be engaged in skirmishing if necessary. Moreover, as the line of skirmishers (Schützenlinie) and the supports would belong to the same companies; they would be under *one* command, and a more thorough and intimate connection would be obtained between open and close order.

* In the Campaign of 1866, the 5th Army Corps fought almost exclusively in half battalions.

This arrangement readily admits of the formation of half-battalions; the 1st half battalion would consist of the 1st and 4th, the 2nd half battalion of the 2nd and 3rd, companies.

Another great advantage claimed for this formation is that it would simplify the formation of the divisions composed of men belonging to the 3rd rank, and of those destined to skirmish, without rendering it necessary to surrender the fundamental formation in three ranks.*

2.—*Formations in Column.*

The Prussian "Column of Attack" consists of a double column of divisions formed on the two centre divisions (the 4th and 5th). This column possesses an advantage over a column formed to either flank, by reason of the greater rapidity with which a deployment into line can be effected. It is far more unwieldy than the company column, but is more adapted to movement than any other formation which embraces the whole battalion; the men are kept thoroughly in the hand of their Commanding Officer; the movements of the column are as independent of the nature of the ground as is possible with so large a body of men; from this formation square can be readily formed to resist Cavalry.

These peculiarities render the column of attack the most suitable order of battle in all cases in which it is necessary to keep the whole battalion united. It has, therefore, been adopted as the *normal order of battle for a Prussian Infantry Battalion*, and it has been adopted as a general principle that, when a battalion prepares for action, this column should be formed with the divisions of skirmishers in rear (an der Queue).

It need scarcely be pointed out that this column possesses all the disadvantages which have been already stated to be inherent in all dense column formations, the most important of which are that a comparatively small front of fire is developed, and that the losses caused by a well directed shot or shell are comparatively great.

(*a.*) Column of Attack, each division being in three ranks. (*Plate* III., *Fig.* 1).

The 4th and 5th divisions form the front of the column; the 3rd, 2nd, and 1st divisions stand in the order in which

* It may be observed, however, that under this arrangement, in order to form the IInd and IIIrd divisions (composed of the men belonging to the 3rd rank of the two centre companies), it would be necessary either to move the flank companies outwards, or at once move them to the front.—(Translator).

they are named, in rear of the 4th division; the 6th 7th, and 8th divisions stand in the order in which they are named, in rear of the 5th division. Hence in the formation of this column from line the divisions above the colours take ground to the left, those below the colours take ground to the right.

The Officer Commanding the 5th division and the colour party, which consists of three files, remain in the same position as when in line, *i.e.*, between the 4th and 5th divisions; the space in rear of them is not filled up, consequently a lateral interval of four paces separate the divisions which constitute the right, from those which constitute the left, wing of the battalion.

The Officers Commanding the 1st, 2nd, 3rd, 4th, and 5th divisions stand on the right flank of their respective divisions, in line with the front rank. The Officers Commanding the 6th, 7th, and 8th divisions stand on the left flank of their respective divisions, in line with the front rank. A supernumerary Lieutenant takes post on the left flank of the 5th division.

The right markers of the divisions above the colours stand in rear of the right-hand file of their divisions. The right marker of the 5th division stands in rear of the Officer Commanding the division, in line with the third rank.

The right markers of the 6th, 7th, and 8th divisions stand on the right of their divisions, in line with the front rank. The left markers of the 1st, 2nd, and 3rd divisions stand on the left of their divisions, in line with the front rank; in all other divisions the left markers stand in the supernumerary rank, immediately in rear of the second file from the left.

All other non-commissioned officers occupy the same positions as when in line.

The supernumeraries, both officers and non-commissioned officers, close up to within two feet of the rear rank of their divisions, with the exception of the supernumerary officers of the 1st and 8th divisions, who preserve the interval of four paces in rear of the third rank of their divisions.

An interval of two paces is left between the front rank of the 2nd and 7th divisions, and the rear rank of the 3rd and and 6th divisions; the band is placed in this interval in single rank, half in rear of the 3rd division, the left-hand man covering the left file of that division, and half in rear of the 6th division, the right-hand man covering the right file of that division.

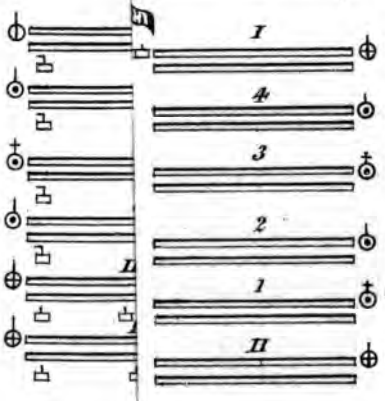
The other divisions are separated by an interval of four feet only, measured from the supernumerary rank of one division to the front rank of the division immediately in its rear.

The Officer Commanding the battalion, accompanied by a bugler and a drummer, takes post in front of the centre of the battalion. The Adjutant takes post in rear of the centre of the battalion.

NOTE.—This formation is of no great importance as it is never adopted in action.

PL. III.

(a) In head and the Column.



(*b.*) Column of Attack, with Divisions of Skirmishers formed.

In o far as men belonging to the first and second ranks are concerned, this formation is precisely similar to that already described, with the single exception that the right marker of the 5th division, and the rear rank of the colour party close up in line with the second rank of the 4th and 5th divisions.

The divisions of skirmishers composed of the men belonging to the third rank are usually formed in rear of the column; the IInd and Ist divisions of skirmishers in rear of the 1st division of the battalion; the IIIrd and IVth divisions of skirmishers in rear of the 8th division of the battalion (*Plate* III., *Fig.* 2. *a*).* The interval which separates the divisions of skirmishers from each other, and from the rear of the battalion, is the same as that which separates the other divisions of the battalion. The Officers Commanding the divisions of skirmishers take post on the outer flanks of their divisions.

The four divisions of skirmishers are occasionally placed in front of the column (*Plate* III., *Fig.* 2. *b*). In this case the IInd and Ist divisions of skirmishers are formed in front of the 4th division of the battalion; the IIIrd and IVth divisions of skirmishers in front of the 5th division of the battalion.

Thirdly, it is possible to place two divisions of skirmishers in front of the column and two in rear of it (*Plate* III, *Fig.* 2. *c*). In this case the Ist and IVth divisions of skirmishers stand respectively in front of the 4th and 5th divisions of the battalion, and the IInd and IIIrd divisions of skirmishers respectively in rear of the 1st and 8th divisions of the battalion.

The column formed as above described, usually with the divisions of skirmishers in rear (*Plate* III., *Fig.* 2. *a*), is the usual column for manœuvre and for attack which is adopted when a whole battalion acts together.

(*c.*) The Battalion Square (*Plate* IV).

When a column has to resist the attack of Cavalry it assumes the form of a square.

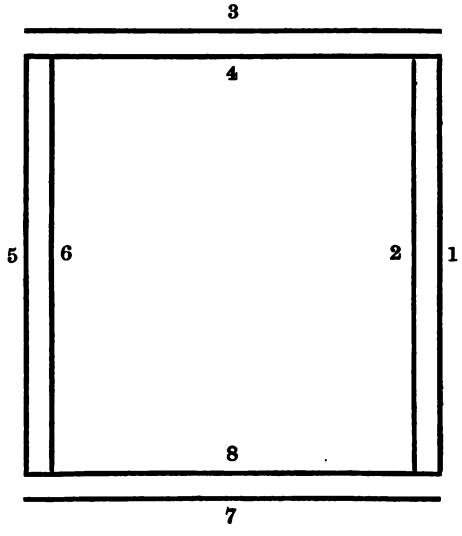
It is absolutely necessary that Infantry, when attacked by Cavalry, should assume a purely defensive attitude, for the main object to be attained is the discomfiture of the Cavalry, whilst still at a distance, by musketry fire, and it is clear that when the soldier is standing still he will fire with greater steadiness and more accurately than when in motion. Also, it is necessary to adopt some formation which will resist the shock of a charge, should the musketry fire prove insufficient to arrest its progress. In spite of the numerous instances which history affords of Cavalry being repulsed by Infantry in line, and in spite of the additional relative advantage which has been conferred on the latter by the introduction of the breech-

* The detailed positions of the Non-commissioned Officers in *Figs.* 2. *b* and 2. *c* are not given in the diagram, as they are the same as in *Fig.* 2. *a*.

loading rifle, it would still be in the highest degree imprudent to consider line as the normal formation in which infantry should meet the attack of Cavalry. Column is a more suitable formation under such circumstances, but it must be so far modified as to enable a front to be presented simultaneously in all directions; also, the four sides of the column must mutually protect each others flanks and rear.

Square is the only formation which fulfils all these requirements. As regards the method of forming square, the following are the chief points to be borne in mind:—(1.) The formation of the square should be as simple as possible, in order to allow it to be formed from line or column (and *vice versâ*) with the least degree of confusion, and in the shortest possible space of time; (2.) The length of each front should be as great as possible consistently with the amount of solidity necessary to resist the impetus of a charge of Cavalry; (3.) The formation must be such as to allow of movement for a short distance without material change; it will be often desirable, during the interval between successive attacks of Cavalry, to move to ground morefavourable to the action of Infantry, or to approach another square and thus act in combination with it; (4.) A sufficient space must be left in the interior of the square for mounted officers, surgeons, wounded men, and occasionally for one or two guns.

Two different descriptions of square may be formed, viz., (1) solid square; (2) hollow square. The first-mentioned of these is formed from close column, by simply closing the ranks, and causing the men to face outwards; in the case of the hollow square each side of the square is made to consist of one company: the annexed diagram shows this latter arrangement.*



* Each number represents a division.

The advantages of the solid square are that it can be quickly and easily formed, that it possesses great strength and solidity, and that it can be easily moved; on the other hand, its short flanks are a disadvantage, as only a small front of fire is deployed in any one direction; the interior space is also very limited.

Hollow square, on the other hand developes a greater front of fire, affords a greater amount of interior space, and suffers comparatively less from artillery fire; its formation is, however, complicated, and requires more time; it is also less solid, and more difficult to move than solid square.

Solid square is the formation which has been adopted in Prussia; it is formed from close column. A battalion in quarter-distance column* on receiving the word of command to form square, closes in the first instance to close column.†

The drill regulations make a distinction between two methods of forming square, viz.:—

(1.) *Square in three ranks.*—This formation is never used in action, and is merely introduced as the basis on which the second description of square is formed (*Plate* IV., *Fig.* 1. *a*).

(2.) *Square in two ranks with divisions of Skirmishers formed.*—In this formation the four divisions of skirmishers may constitute one side of the square (*Plate* IV., *Fig.* 1. *b*); or, two divisions of skirmishers may be dispersed to skirmish, in which case the other two divisions constitute one side of the square, supported by the 1st, 2nd, 8th, and 7th divisions (*Plate* IV., *Fig.* 1. *c*); or, lastly, all four divisions of skirmishers may be dispersed to skirmish, in which case the square is composed of eight divisions each of two ranks. The skirmishers, if threatened by Cavalry when skirmishing, would of course form rallying squares independently.

(*c.* 1.) Formation of Square from Column of Attack, each division being formed in three ranks (*Plate* IV., *Fig.* 1. *a*).

The Officer Commanding the battalion gives the word—"Form Square."

The following movements are then carried out, without any words of command being required from the officers commanding divisions:—

The 4th, 5th, 2nd, and 7th divisions remain steady. The 3rd and 6th divisions close up to within two feet of the rear rank of the 4th and 5th divisions. Similarly the 1st and 8th divisions close up to the 2nd and 7th; the supernumerary ranks disengage and step out into the centre of the square. As soon

---

* In quarter-distance column, the interval separating the divisions is one-quarter of the length of the front of a division.

† In close column the interval separating the divisions is 4 feet, measured from the supernumerary rank of one division to the front rank of the division immediately in its rear.

as the 1st and 8th divisions have closed on the 2nd and 7th, all four divisions turn about. The three outer files of the 2nd, 3rd, 6th, and 7th divisions wheel outwards. The three outer files of the 4th, 5th, 1st, and 8th divisions turn outwards or remain steady according to the direction from which attack is expected.

An interval of five paces is thus left between the present rear ranks of 3rd and 2nd divisions; this interval is filled by the two officers commanding these divisions, and 13 non-commissioned officers, the whole 15 being ranged in three ranks; similarly, the interval between the rear ranks of the 6th and 7th divisions is filled by the two officers commanding these divisions, and by 13 non-commissioned officers. The lateral intervals between the 4th and 5th divisions, and between the 1st and 8th divisions are in like manner each filled by the two officers commanding contiguous divisions, and by 10 non-commissioned officers, the whole ranged in three ranks. The non-commissioned officer carrying the colours takes post in rear of the right flank of the 6th division; the rest of the colour party remain steady; consequently, only four additional non-commissioned officers from the supernumerary ranks are required to fill up the interval between the 4th and 5th divisions.

The officer commanding the 5th division remains steady; the officers commanding the 4th, 1st, and 8th divisions shift to the inner flank of their divisions. The officers commanding the 2nd, 3rd, 7th, and 6th divisions take post on the pivot flank of the three files of their divisions, which have wheeled outwards, in line with the actual front rank.

If the number of non-commissioned officers is not sufficient to fill up the intervals, which have been above described, the requisite number of men are taken for this purpose either from the inner flank of the third rank of the 3rd and 6th divisions, or from the inner flank of the 3rd rank of the 2nd and 7th divisions.

The band occupies the same position as when in column, that is, it stands in one rank in rear of the inner flanks of the 3rd and 6th divisions; it closes up, however, to as close an interval as possible.

The Officer Commanding the battalion, and the Adjutant take post in the centre of the square.

Supernumerary officers, Serjeant-Majors, and any supernumerary non-commissioned officers over and above the number required to fill up the intervals already mentioned, stand in the centre of the square, in rear of the companies to which they belong.

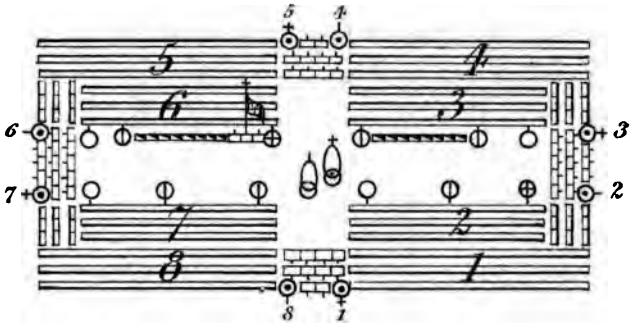
(*c.* 2.) Formation of Square from Column of Attack, with Divisions of Skirmishers formed in rear of the Column.

The eight divisions, which now consist of two ranks each, close in precisely the same manner as described in (*c.* 1).

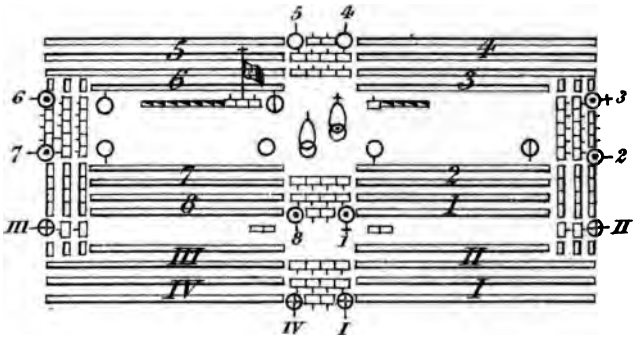
If all four divisions of skirmishers are in rear of the column

Fig. 1. The Battalion Square.

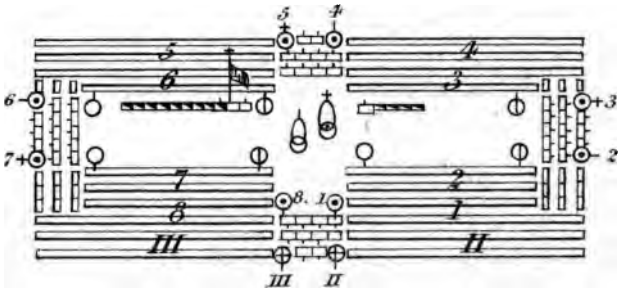
(a) Divisions in three ranks.



(b) All the Divisions of Skirmishers formed in rear of the Column.



(c) Two Divisions of Skirmishers formed in rear of the Column.



(*Plate* IV., *Fig.* 1. *b*), the IInd and IIIrd divisions of skirmishers close up to within four feet respectively of the 1st and 8th divisions; the Ist and IVth divisions of skirmishers close up respectively to within two feet of the IInd and IIIrd divisions of skirmishers. The four divisions of skirmishers, together with the 1st, 2nd, 7th, and 8th divisions, then turn about.

The three men on the outer flanks of the front rank (present rear rank) of the IInd and IIIrd divisions of skirmishers turn outwards, as also do the three men on the outer flanks of the rear rank of the 3rd and 6th divisions. The three files on the outer flanks of the 1st, 2nd, 7th and 8th divisions turn outwards.

The intervals between the rear ranks of the 3rd and 6th divisions, and the present rear ranks (proper front ranks) of the 2nd and 7th divisions are filled up, as in the previous case, by the 4 officers commanding these divisions, and by 26 non-commissioned officers (2 officers and 13 non-commissioned officers on each side of the square). Similarly the lateral intervals between the 4th and 5th divisions, and between the Ist and IVth divisions of skirmishers are filled up by the 4 officers commanding these divisions and 20 non-commissioned officers (2 officers and 10 non-commissioned officers on each side of the square). In the case of a battalion on a war establishment, the lateral interval in the interior of the square between the 1st and 8th divisions is filled up by the 2 officers commanding the 1st and 8th divisions, and 10 non-commissioned officers.

The officers commanding the 8 divisions of the battalion occupy positions similar to those described in (*c*. 1). The officers commanding the IInd and IIIrd divisions of skirmishers step up respectively in the intervals between the rear rank (present front rank) of 1st and 8th divisions and the front rank (present rear rank) of the IInd and IIIrd divisions of skirmishers; 2 non-commissioned officers step up in rear of each of these officers.

If all four divisions of skirmishers are dispersed to skirmish, the arrangement is precisely similar to that already described, with the exception that the three files on the outer flanks of the 1st and 8th divisions, as well as the three men on the outer flanks of the proper front rank (present rear rank) of the 2nd and 7th divisions do not turn outwards, but remain steady.

In the case in which two divisions of skirmishers are dispersed to skirmish, the remaining divisions (the 2nd and 3rd) close to within 2 feet of the 1st and 8th divisions and turn about (*Plate* IV., *Fig.* 1. *c*). The officers commanding the divisions of skirmishers shift to the inner flanks of their divisions. The lateral interval between the IInd and IIIrd divisions of skirmishers is closed as before. The files at the corners of the square are disposed in a manner precisely analogous to that which has been already described.

NOTE.—By especially noting the following points, which invariably hold good, whether the square consists of 4 or 2 ranks, or of 8, 10, or 12 divisions, much confusion will be avoided:—

(1.) At least 4 ranks, or at most 6 ranks, are closed on one another in order to form square.

(2.) The central intervals in the front and rear faces of the square are filled up by 4 files, consisting of officers commanding divisions and non-commissioned officers; the central intervals on the flank faces of the square are filled up by 5 files, consisting of officers commanding divisions, and non-commissioned officers.

(3.) The officers commanding the leading divisions take post in the central intervals at the head of the column; the officers commanding the 2nd, 3rd, 6th, and 7th divisions take post in the central intervals on the flanks of the square. The officers commanding the rear divisions take post in the central intervals in the rear face of the square.

In all cases the officer commanding the battalion, as soon as the square is formed, gives the word "Square—ready"; all the men in the front rank then come to the "Ready"; the men in the 2nd and 3rd ranks close a short pace to the right and also come to the "Ready"; officers commanding divisions enter the centre of the square, and stand immediately in rear of the places which they occupied in the front rank.

(*d*) Company Column.

Company column is the formation for action of a company acting independently, or of a battalion split up into companies.

The company column of divisions (*Plate* V., *Fig.* 1. *a*) consists of 3 divisions, each of two ranks; the divisions are separated by an interval of six paces. The companies above the colours (1st and 2nd) form column, left in front; the companies below the colours (3rd and 4th) form column, right in front. The division of skirmishers is invariably formed in rear of the column.

The Captain Commanding stands in front of his company, with a bugler by his side. The officers commanding divisions stand on the right flank of their divisions in line with the front rank. The First Lieutenant commands the even division. The Senior Second-Lieutenant commands the odd division. The second Senior Second-Lieutenant commands the division of skirmishers unless an officer be specially detailed for this duty by the Captain.

The right markers stand in rear of the right files of their divisions. The left markers stand on the left flanks of their divisions, in line with the front rank. Another non-commissioned officer stands in rear of the second file from the left of each division. The Ensign (Portepee-fähnrich), Serjeant-Major, or Acting Serjeant-Major, stands in rear of the second file from the right of his division. The remaining non-commissioned officers stand in the supernumerary rank in rear of their divisions.

The drummers stand in one rank behind the column. No particular place is assigned to the buglers.

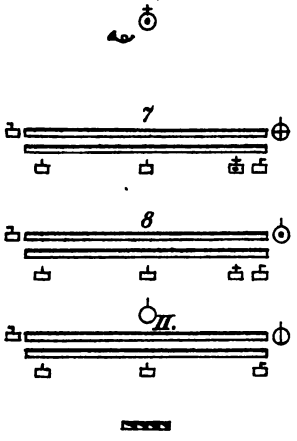
Company column of sub-divisions (*Plate* V., *Fig.* 1. *b*) is

PL. V.

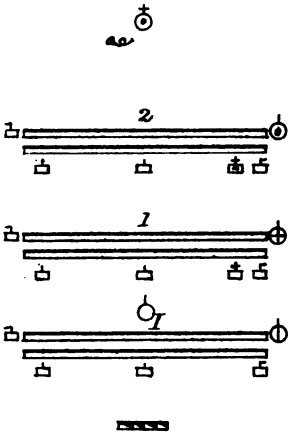
Fig. 1. Company Column.

(a.) Company Column of divisions

4th Company (below the Colors.)

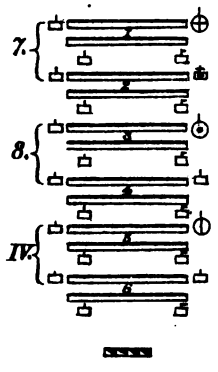


1st Company (above the Colors)



(b) Company Column of sub-divisions

4th Company (below the Colors)



1st Company (above the Colors)

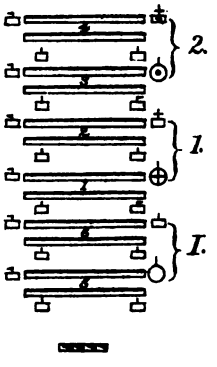
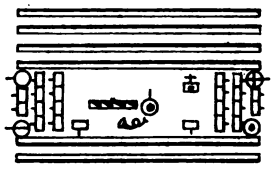
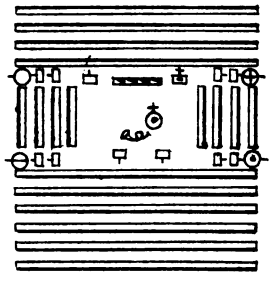


Fig. 1. Company Square.

a.) From Column of divisions



b.) From Column of sub-divisions



formed in a precisely similar manner to company column of divisions. The companies above the colours form column, left in front, hence the odd (3rd and 1st sub-divisions, and 5th sub-division of skirmishers) sub-divisions take post in rear of the even (4th and 2nd sub-division and 6th sub-division of skirmishers) sub-divisions. The companies below the colours form column right in front, hence the even, take post in rear of the odd, sub-divisions.*

The officers commanding divisions stand on the right flank of the odd, or proper right, sub-divisions. The even, or proper left, sub-divisions are commanded by the junior Second-Lieutenant, Ensign, Serjeant-Major, and, if necessary, by other non-commissioned officers; all the commanders of sub-divisions stand on the right flanks of the sub-divisions which they command.

The markers keep their places; when a sufficient number of non-commissioned officers are available, one is placed on the left flank of each sub-division, and one in rear of the right file of each sub-division. Any remaining non-commissioned officers stand in rear of their sub-divisions.

(*e*) Company Square.

Before forming company square the divisions invariably close to an interval of 4 feet.

Company square can be formed from column of divisions or from column of sub-divisions. In the latter of these two cases the flank faces of the square are longer than in the former; hence it is usually adopted by a company on a war establishment.

The only word of command necessary proceeds from the Captain, who gives the word "Form square."

In the case of a company column of divisions (*Plate* VI., *Fig.* 1. *a*), at this word of command the centre division of the column closes up to within 2 feet of the leading division; the rear division turns about. The officers and non-commissioned officers step up in the interval on the flanks in the same way as in the formation of square from column of attack; if the number of non-commissioned officers is not sufficient to supply three ranks in the flank intervals, the requisite number of men are taken from the centre of the rear rank of the centre division to supply their places.

In the case of a company column of sub-divisions (*Plate* VI., *Fig.* 1. *b*) the 2nd sub-division† closes to within 2 feet of the

* It is to be observed that the sub-divisions of each company are numbered from right to left, the division of skirmishers constituting the 5th and 6th sub-divisions. — (Translator.)

† The numbers here refer to the position of the sub-division in the column, the leading subdivision being numbered 1, the sub-division immediately in rear of it 2, and so on. This enumeration is different from that adopted in *Plate* V., *Fig.* 1. *b*, where the subdivisions are numbered from right to left according to their position when in line.—(Translator.)

1st; the 5th and 6th sub-divisions close on the 4th; all three then turn about. The 3rd sub-division wheels outwards by sections.

The Captain and the musicians enter the square. When the square is formed, the word "Ready" is given.

If a company consists of less than two complete divisions, or four complete sub-divisions, or if the company is formed in three divisions, but the number of files is not sufficient to form sub-divisions, rallying square (Knaüel) is formed to resist Cavalry.

(*f*) The Battalion in Company Columns.

In forming company columns from a battalion in line (*Plate* VII., *Fig.* 1), the companies above the colours form column left in front, *i.e.*, respectively on the 2nd and 4th divisions; the companies below the colours form column right in front, *i.e.*, respectively on the 5th and 7th divisions. The centre companies are, therefore, separated by an interval of 3 or 4 paces only; intervals equal to the length of the front of a division separate the flank (1 and 4) from the centre (2 and 3) companies. Each company column is formed as already described in (*d*).

The musicians take post in rear of the companies to which they belong.

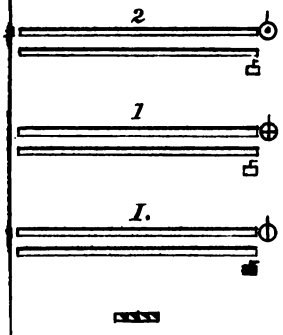
The colour party and the Drum-Major form a section by themselves, and stand in rear of the right or inner flank of the division of skirmishers of the 3rd company.

If there are two field officers to the battalion, the junior field officer commands the two centre companies; if there is only one field officer to the battalion, these companies are commanded by the senior of the two Captains belonging to them.

In the case of a column of attack in which each company is in company column, the two centre companies are disposed in the same manner as when the battalion is formed in line of company columns (*Plate* VII., *Fig.* 2). The flank companies (1 and 4) form company column in rear of the two centre companies, *i.e.*, the 1st company in rear of the 2nd, and the 4th in rear of the 3rd. The only difference, in fact, between this formation and the ordinary column of attack is, that in this case, each division of skirmishers stands immediately in rear of the company to which it belongs. This would be the normal formation of a column of attack if company column were fully recognized as the fundamental formation for action of a battalion.

NOTE.—*All the columns as yet described are formations such as are employed in action: hence they are of the utmost importance; the remainder, namely, the columns of divisions, sub-divisions, sections and files, are only used on the march, and are therefore of less importance.*

PL. VII.



nn

(*g*) Column of Divisions.

This column can be either closed or open, and can be formed right or left in front.

In the case of a close column of divisions, an interval of 4 feet is preserved between the divisions.

Officers commanding divisions stand on the right flank of their divisions, in line with the front rank. The right markers stand in rear of the right-hand file of their divisions. The left markers stand on the left of their divisions in line with the front rank. Supernumerary officers and non-commissioned officers stand in rear of their divisions, at an interval of 2 feet from the 3rd rank, except the supernumerary officer of the rear division, who maintains the usual interval. The colour party stands in one rank, in rear of the right flank of the 5th division, and in line with the supernumerary rank.

The band stands in rear of the column, eight paces from the supernumerary officer. The officer commanding the battalion, accompanied by a bugler, stands in front of the column. The Adjutant takes post on the right flank of the column, in line with the 5th division.

In the case of an open column of divisions, the divisions preserve their full wheeling distance; officers commanding divisions stand two paces in front of the centre of their divisions; the markers take post respectively on the right and left flanks of their divisions, in line with the front rank; supernumerary officers and non-commissioned officers stand in rear of their divisions at intervals respectively of four and two paces, as in line; the colour party occupies the same position as in close column of divisions; the Adjutant stands on the reverse flank of the battalion, in line with the 5th division; the musicians stand in rear of the Adjutant, in file; the officer commanding the battalion stands on the pivot flank of the battalion, in line with the 5th division.

Officers commanding divisions, markers, and supernumerary officers and non-commissioned officers occupy the same places whether the column be formed right or left in front.

(*h*) Column of Sub-divisions.

Column of sub-divisions can be either closed or open, and can be formed right or left in front.

Officers commanding divisions stand on the right flank of their leading sub-divisions; a supernumerary non-commissioned officer stands on the right flank of the rear sub-divisions of divisions, except in the case of the rear sub-division of the battalion, where the supernumerary officer steps up to the right flank of the sub-division. The right markers of divisions stand in rear of the right file of the leading sub-divisions of divisions; the left markers of divisions stand in rear of the second file from the left of the rear sub-divisions of divisions; no officers or non-commissioned officers are posted on the left flanks of the sub-

divisions; supernumerary officers and non-commissioned officers stand in rear of their sub-divisions; the colour party stands in one rank, in line with the supernumerary rank and in rear of the leading sub-division of the 5th division; the officer commanding the battalion, the Adjutant, and the musicians occupy the same positions as in open column of divisions.

Officers commanding divisions, markers, and supernumerary officers and non-commissioned officers occupy the same places, whether the column be formed right or left in front.

When a battalion is moved by column of sub-divisions or sections, or in file, a non-commissioned officer of the leading company acts as fugleman to give the step; he marches on the pivot flank, in line with the head of the column, and preserves a lateral interval from the battalion equal to the length of the front of a division.

(*i*) Column of Sections.

Column of sections can be either closed or open, and can be formed right or left in front.

Officers commanding divisions take post on the right of the leading section of their divisions; the right markers stand in rear of the right file of the leading section of their divisions; all other officers and non-commissioned officers are distributed on the left of the sections, except the supernumerary officer of the rear division, who stands on the right of the rear section, in line with the front rank; the colour party forms a section by itself, and stands between the rear section of the 4th, and leading section of the 5th, division. On the march, the officer commanding the battalion, the Adjutant, and the musicians, are placed at the head of the column; otherwise, they occupy the same positions as in open column of divisions.

Officers commanding divisions, as well as supernumerary officers and non-commissioned officers occupy the same places whether the column be formed right or left in front.

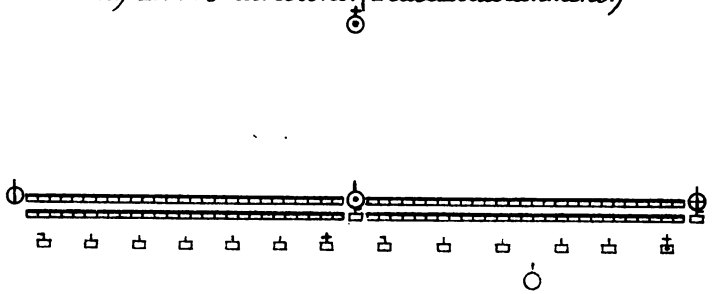
Column of sections is the ordinary order of march for a Prussian battalion; the breadth of the column is usually suitable to the width of an ordinary high-road; further, this formation admits of the ranks opening out, and thus allowing the men to break step without increasing the length of the column to any considerable extent.

(*j*) Marching in File (Reihen-Colonne).

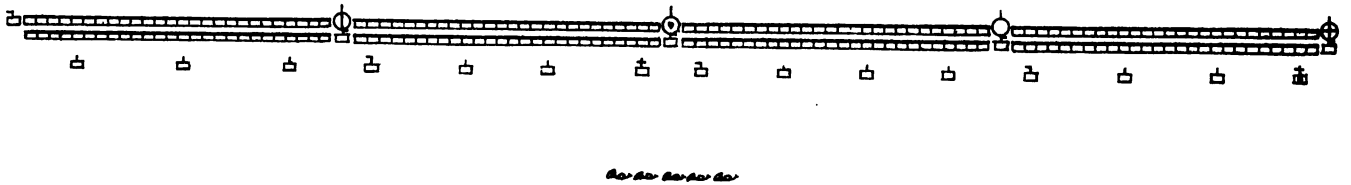
In marching in file, officers commanding divisions place themselves in line with the leading file of their divisions; in taking ground to the right the supernumerary officer of the 8th division places himself on the left and in line with the rear file of his division; in taking ground to the left he places himself in the supernumerary rank of officers, and in line with

Fig. 1. Company in Line.

a.) In two divisions. (Peace Establishment.)



b.) In four divisions. (War Establishment.)



PL. VIII.

the rear file of his division. In all cases the right markers take the places occupied by the commanders of divisions, when in line; the colour party, supernumerary officers, and non-commissioned officers, &c., turn to the right or left with the battalion, but retain the same relative position as when in line; the officer commanding the battalion, the Adjutant, and the musicians, take post at the head of the column when on the march; otherwise, they occupy the same positions as in open column of divisions.

This order of march is, for obvious reasons, so inconvenient that it would never be adopted, except when it was required to move a battalion for a very short distance over level ground, or in cases where the space available did not admit of the employment of any other formation.

B.—Rifles (Jäger und Schützen).

1. *Formations in Line.*

Line can only be regarded as an elementary fundamental formation for Riflemen; the normal formation for action is the company column, together with its square.

(*a*) The Company in Line (*Plate* VIII., *Fig.* 1. *a*).

Riflemen are ranged in two ranks only. A company, if it consists of less than 64 files, is divided into 2 divisions; these latter, ***without regard to the number of files of which they may consist***, are sub-divided into sub-divisions, which are again divided into sections of not more than 6, or less than 4, files.

The positions occupied by officers and non-commissioned officers are precisely similar to those occupied in the case of an ordinary battalion of Infantry, with the exception that those non-commissioned officers who, in the case of the Infantry, stand in line with the third rank, close up, in the case of the Rifles, to the second rank.

If the company consists of more than 64 files, it is divided into 4 divisions, and these again into subdivisions and sections. The First Lieutenant commands the 3rd division, the senior Second-Lieutenant the 1st division, the second senior Second-Lieutenant the 4th division, and the third senior Second-Lieutenant the 2nd division. If there is a fifth Lieutenant belonging to the company, he stands on the left flank of the company, in line with the front rank; if there is no officer available for this duty, the place is occupied by the left marker of the 4th division.

(*b*) The Battalion in Line.

The companies and divisions of the battalion are numbered from right to left. There are 8 or 16 divisions in a battalion,

according as each division consists of more or less than 64 files.

The Captains command the right divisions of their companies. If the companies consist of 4 divisions, the senior Second-Lieutenant takes command of the 2nd division, and the third senior Second-Lieutenant takes his place in the supernumerary rank of officers in rear of the 1st division, except in the case of the 4th company, in which case he steps up on the left flank of the battalion, in line with the front rank.

The colour party is placed between the 4th and 5th divisions, if the battalion consists of 8 divisions, or between the 8th and 9th divisions, if it consists of 16 divisions.

2. *Formations in Column.*

(*a*) Company Column (*Plate* IX., *Fig.* 1).

All companies form column right in front.

If the companies consist of 2 divisions only (that is, if they consist of less than 64 files), the company columns are formed of 4 sub-divisions at 6 paces interval (*Plate* IX., *Fig.* 1. *a*). The Captain, accompanied by a Bugler, stands in front of his company. The two officers commanding divisions take command of the odd sub-divisions (1st and 3rd). The second senior Second-Lieutenant commands the 4th sub-division, the third senior Second-Lieutenant the 2nd sub-division. Commanders of sub-divisions place themselves on the right of the sub-divisions they command.

Each sub-division has a right and left marker; the former places himself in rear of the right-hand file of his sub-division, the latter on the left of his sub-division, in line with the front rank.

In the case of a company consisting of 4 divisions, company column is formed in a precisely similar manner as that described for a company consisting of 2 divisions, with the exception that the word "division" is substituted for "sub-division" (*Plate* IX., *Fig.* 1. *b* (1)). From this formation a column of sub-divisions may be formed right in front, the even sub-divisions of divisions forming in rear of the odd sub-divisions of divisions (*Plate* IX., *Fig.* 1. *b* (2)). In this latter case the officers commanding divisions take command of the leading sub-divisions of divisions; the Ensign, Serjeant-Major, and other non-commissioned officers take command of those sub-divisions for which no officer is available.

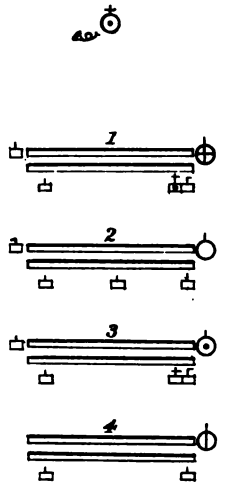
The company column of 8 *sub-divisions is the order of battle for a single company on a war establishment.*

(*b.*) Company Square (*Plate* X., *Fig.* 1).

Before forming square, the divisions or sub-divisions forming the column close to an interval of 4 feet. The word of command "Form square" is then given.

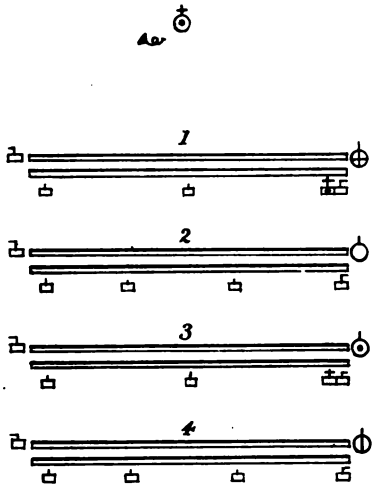
Fig. 1. Company Column.

(a) Peace Establishment
(Column of sub-divisions)



(b) War Establishment

1.) Column of divisions



2.) Column of sub-divisions

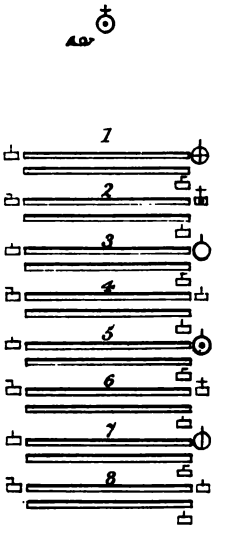
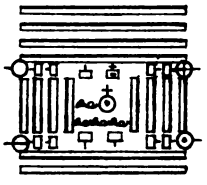
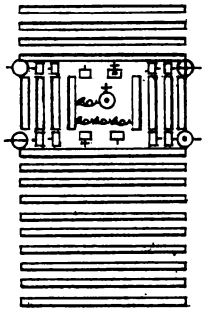


Fig. 1. Company Square.

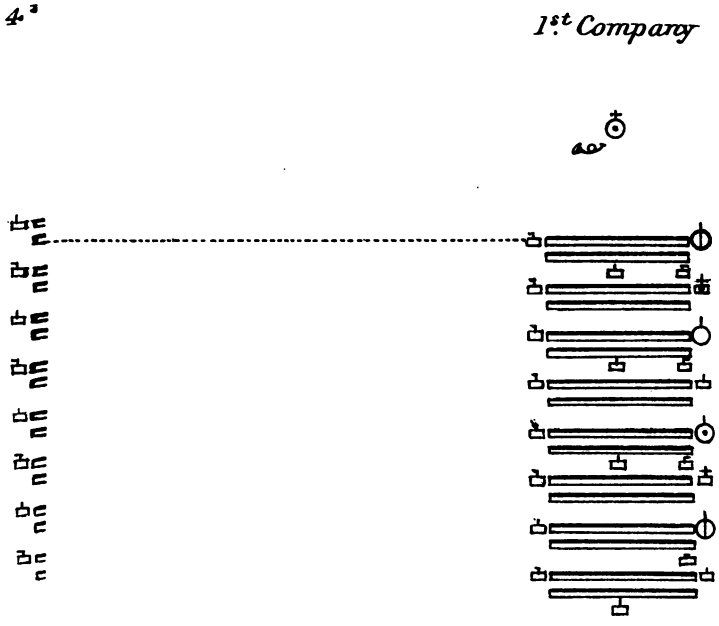
(a) Peace Establishment (four sub-divisions)



(b) War Establishment (eight sub-divisions)



PL. XI.



(*b* 1) Company Square from Company Column of 4 Sub-divisions (*Plate* X., *Fig.* 1*a*).

The 2nd sub-division closes to within 2 feet interval of the leading sub-division; the rear sub-division turns about; the 3rd sub-division wheels sections outwards. The Captain and musicians enter the square.

(*b* 2.) Company Square from Company Column of more than 4 Sub-divisions (*Plate* X., *Fig.* 1*b*).

The 2nd sub-division closes on the leading sub-division. The rear sub-divisions close on the 4th, and, together with the 4th sub-division, turn about. The 3rd sub-division wheels sections outwards.

In all cases when square has been formed, the men receive the order to fix bayonets, and come to the "Ready."

In the case of a company consisting of less than 4 sub-divisions, rallying square is formed to resist the attack of Cavalry.

(*c*.) The Battalion in Company Columns.

The 4 companies of the battalion form company column, right in front, on their right division or sub-division. If the companies are divided into 4 divisions, column of divisions is formed in the first instance, and column of sub-divisions subsequently (*Plate* XI).

The colour party remains attached to the 3rd company, and forms an independent section. If the column consists of 4 sub-divisions, the colour party takes post in rear of the 3rd sub-division; if of 4 divisions, it takes post in rear of the 3rd division, and if of 8 sub-divisions, in rear of the 5th sub-division.

The officer commanding the battalion then directs which companies are to close on each other to form reserves or supports, and which are to go to the front to act as skirmishers.

If it becomes necessary to form a column of attack, the 4 company columns close on the centre. This is the primary formation for action (Gefechts-Aufstellung) for a battalion of Rifles, although, as a matter of fact, the battalion would rarely come into action in such a formation.

(*d*) The Battalion Square.

From the last-named formation, which is virtually a line of contiguous company columns, square may be formed in two ways: (1.) The 1st and 4th companies may be ranged in rear respectively of the 2nd and 3rd; (2.) The four companies may remain in line of contiguous company columns, and the rear face of the square may be formed from the rear portion of each company.

In the first case the 1st and 4th companies are moved respectively in rear of the 2nd and 3rd before square is formed; the

sub-divisions of each company then close on the leading sub-division of the company; the rear companies (1st and 4th) then close to within 5 paces of the rear rank of the sub-division in front of them, and turn about (*Plate* XII., *Fig.* 1).

In the second case, supposing each company column to consist of 8 sub-divisions, the 2nd, 3rd, and 4th sub-division of each company close on the 1st; the 6th, 7th, and 8th sub-divisions of each company close on the 5th; the whole of the rear sub-divisions then close to within 5 paces of the rear rank of the sub-divisions in front of them and turn about (*Plate* XII., *Fig.* 2).

In both of the two above-mentioned cases the centre of the flank faces of the square consist of 6 files of 3 men each; these files are composed of men taken from the inner flanks of the subdivisions in the centre of the square. The commanders of the outer sub-divisions which form the rear face of the square take post on the flanks of the square. The other commanders of sub-divisions stand on the inner flanks of their sub-divisions. The buglers stand in rear of the 2nd and 3rd companies. Non-commissioned officers step up to cover the sub-divisional commanders. The two flank files of the flank sub-divisions of the square, with the exception of those in the actual front ranks, turn outwards. As soon as the square is formed, the word "Ready" is given.

III. MANŒUVRES IN CLOSE ORDER.

The following are the different paces in use in the Prussian Army:—

(1.) The ordinary quick step of 2 feet 4 inches,—112 to the minute.

(2.) The "step out" (Beschleunigte Schritt) of 120 to the minute.

(3.) The "double" (Lauf-Schritt) of 2 feet 8 inches, or about 170 to the minute.

(4.) The "run" (trab); in this case step is not preserved; it is employed for the rapid movement of skirmishers, &c.

(5.) The "back step" (Ruckwärts Treten) of half a pace; this is only employed when it is necessary to fall back a very short distance.

On the march the number of steps to the minute varies much according to the state of the roads, the strength of the men, and other accidental circumstances; the average number of

Fig. 1.

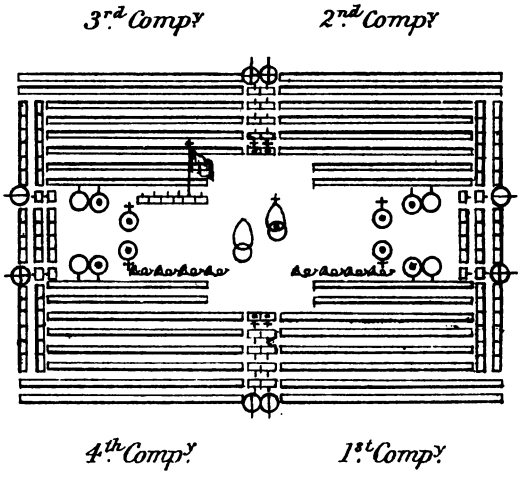
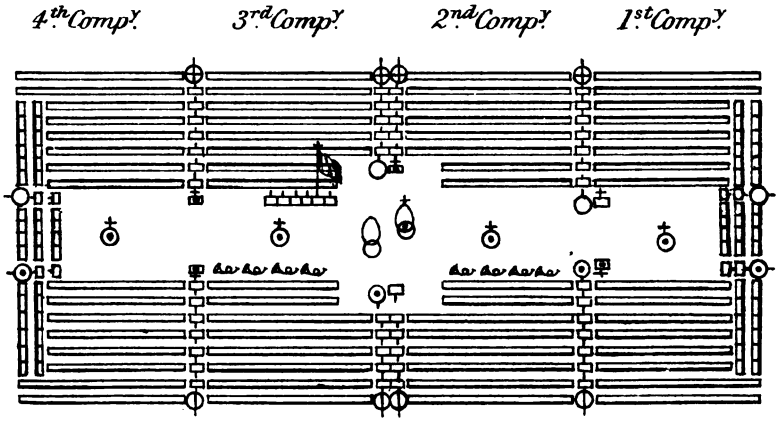

3rd Compy
2nd Compy
4th Compy
1st Compy

Fig. 2.


4th Compy
3rd Compy
2nd Compy
1st Compy

paces may be taken as 100. The slow step, of from 75 to 85 to the minute, is only employed in the first elementary training of recruits.

The manœuvres carried out on the field of battle may be treated under four heads, viz.:—

(1.) Movements in line.
(2.) Formations of column from line.
(3.) Movements in column, including the change from one description of column to another.
(4.) Deployments into line from column.

1. *Movements in Line.*

No body of troops larger than a company should move for any considerable distance in line. A battalion can only be moved in line for a short distance, and on favourable ground.

A company, or any smaller body of men, when moving in line, dresses by the right, unless the word "Eyes left" is especially given.

(*a*) Advancing in Line.

At the word, "Battalion—Forward," the colour party advances 8 paces; the rear rank of the colour party step up in line with the front rank.

At the word "March," the whole battalion steps off together, dressing by the centre. The Adjutant rides in rear of the centre of the battalion.

At the word "Battalion—Halt," the battalion halts, the colour party falls in, and the whole dress by the right.

(*b*) Retreating in Line.

A line retreats in a precisely similar manner to that in which it advances, the colour party occupying a position 8 paces in front of the line.

This movement would never take place save on the parade ground. On active service all retreats would be effected in column.

(*c*) Oblique March.

At the word "Half-Right (or Left)," the commanders of divisions place themselves one pace in front of their right-hand file. The officer on the left flank of the 8th division places himself one pace in front of the left hand file of that division. At the word "March," the battalion turns in the required direction, and marches on until it receives the word "Forward," when the officers fall in, and the whole battalion advances straight to its front, dressing by the centre. The colour party, as before, occupies a place 8 paces in front of the battalion; it is ranged in one rank parallel to the front of the battalion.

(*d*) Breaking off Divisions on the March.

When, during the advance of a line, an obstacle occurs in front of any division, the Officer Commanding the division gives the word to halt, and allows the line to pass him; he then gives the word "Half-Right (or Left)—Double."

After passing the obstacle, he again gives the word "Half-"Right (or Left)—Double"; when the division is immediately in rear of the position it would occupy in the battalion when in line, the word "Forward" is given, accompanied by "Eyes left," if the division is above the colours. On regaining its place in line, the division picks up the step of the battalion.

(*e*) Change of Front.

In action, all changes of front would be effected either by battalions formed in column of attack or in company columns. A battalion in line changes front on the centre, but this manœuvre is only intended for the parade ground, in order to render the men steady, and to practice both officers and men in wheeling. The manœuvre is carried out as follows:—At the word of command "Change Front to the Right (or Left)" (Achsschwenkung Rechts oder Links) the right marker of the 4th division, and the left marker of the 5th division step out, and are placed by the officer commanding the battalion as points to indicate the new alignment, one in rear, and one in front of centre of the line, facing towards the colours, and at a distance from them equal to the length of the front of a division.

The officer commanding the battalion then gives the word "1st and 2nd (or 3rd and 4th) Companies—About;—Battalion, "Right (or Left) Wheel"; the right markers of the divisions above the colours, and the left markers of the divisions below the colours, then double out and mark the position which the reverse flanks of their respective companies will occupy; they turn inwards.

At the word "March," the divisions wheel, the two centre divisions of the battalion in quick time, the remainder at the double. Each division is halted by its own commander. The companies which are thrown back are allowed to pass the alignment, and then halt, front, and dress up. During the wheel, dressing is on the centre of the battalion. At the word "Eyes "Right," the companies above the colours look to the front, and the markers fall in their places in line.

2. *Formations of Column from Line.*

Column can be formed from line in three ways, namely:—

(1.) By simply facing the battalion to the right or left.
(2.) By wheeling by divisions, sub-divisions, or sections.
(3.) By allowing one division, sub-division, or section to remain steady, and by moving the remainder in front or rear of it. This is termed "ployiren."

(*a*) Formation of Column of Files (Reihen Colonne) from Line.

This consists in simply facing the whole battalion to the right or left.

(*b*) Formation of open Column from Line.

Open column, either of divisions, sub-divisions, or sections, can be formed by simply wheeling by divisions, sub-divisions, or sections to the right or left.

(*c*) Formation of Close Column of Divisions from Line.

Close column of divisions may be formed, right or left in front, on any division of the battalion. The division on which column is to be formed remains halted; the remainder face to the right, left, or inwards, according to circumstances. Each division, on arriving in its place in column is halted by its own commander, who then, under all circumstances, falls in on the right of his division.

(*d*) Formation of Column of Attack (Augrifss-Colonne) from Line.

Column of attack can be formed from line either from the halt or on the march. In the former case, the 1st, 2nd, and 3rd divisions turn to the left and move in rear of the 4th division, either in quick time or at the double; similarly the 6th, 7th, and 8th divisions turn to the right, and move in rear of the 5th division. In the latter case the three divisions on either flank incline inwards, and move into their positions in rear of the two centre divisions at the double.

If the battalion is in line with the divisions of skirmishers formed in rear of the flanks, the IInd and Ist divisions of skirmishers move in rear of the 1st division, the IIIrd and IVth divisions of skirmishers in rear of the 8th division.

(*e*) Formation of Company Column from Line.

The word of command is simply "Form company columns."

A.—INFANTRY.

(*a*) Formation of Company Column from Line in three ranks (*Plate* XIII., *Fig.* 1. *a*).

The third rank of the 2nd, 4th, 5th, and 7th divisions (that is, the even divisions above the colours, and the odd divisions below the colours) turn about, take 12 paces to the rear, and front. The 1st and 3rd divisions turn to the left: the 1st and 2nd ranks of each of these divisions march to positions 6 paces in rear respectively of the 2nd and 4th divisions, halt, and

front. The 3rd ranks of the 1st and 3rd divisions incline to their left, and halt and front immediately in front of the 3rd rank of the 2nd and 4th divisions respectively. Thus, the divisions of skirmishers are formed.

The 6th and 8th divisions turn to the right; the 1st and 2nd ranks of each of these divisions march to positions 6 paces in rear respectively of the 5th and 7th divisions. The 3rd ranks of the 6th and 8th divisions incline to their right and halt and front immediately in rear of the 3rd rank of 5th and 7th divisions respectively, thus forming the divisions of skirmishers.

All these movements are carried out without any word of command from the officers commanding divisions, and without any attention being paid to keeping step.

(β) Formation of Company Columns from a Battalion in Line with Divisions of Skirmishers formed in rear of the Flanks of the Battalion.

The odd divisions of the companies above the colours turn to the left, and march in rear of the even divisions. The even divisions of the companies below the colours turn to the right, and march in rear of the odd divisions. The divisions of skirmishers take post in rear of the companies to which they belong. An interval of 6 paces separates divisions.

(γ) Formation of Company Column of Sub-divisions from Company Column of Divisions.

At the word "Form Sub-divisions," the odd sub-divisions of divisions of the companies above the colours turn to the left and march in rear of the even sub-divisions of divisions; the even sub-divisions of divisions of the companies below the colours turn to the right and march in rear of the odd sub-divisions of divisions. An interval of two paces is preserved between sub-divisions.

B.—Rifles.

Companies of less than 64 files are formed, as has been already remarked, in two divisions. In this case the 1st (or right) sub-division of each company remains steady, and the remaining sub-divisions turn to the right and form column of sub-divisions in rear of the right. An interval of six paces is preserved between subdivisions.

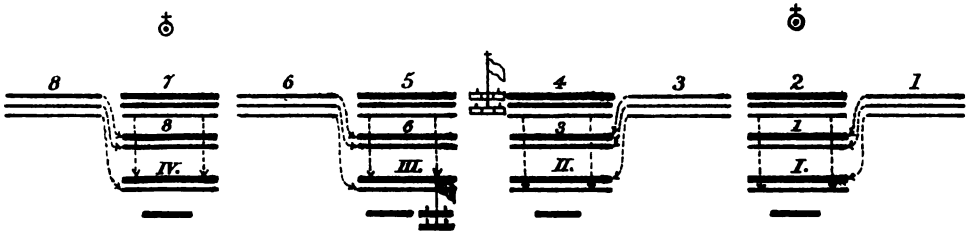
If the companies consist of more than 64 files, and, therefore, of four divisions, column of divisions is formed at six paces interval in rear of the right division of each company (*Plate* XIII., *Fig.* 1. *b**); from this formation column of sub-divisions can readily be formed, the even sub-divisions of divisions taking post two paces in rear of the odd sub-divisions of divisions.

* The diagram only represents the formation of the two centre companies in company columns of divisions. The 1st company will, of course, form in a manner precisely similar to that indicated for the 2nd, and the 4th in a similar manner to the 3rd.

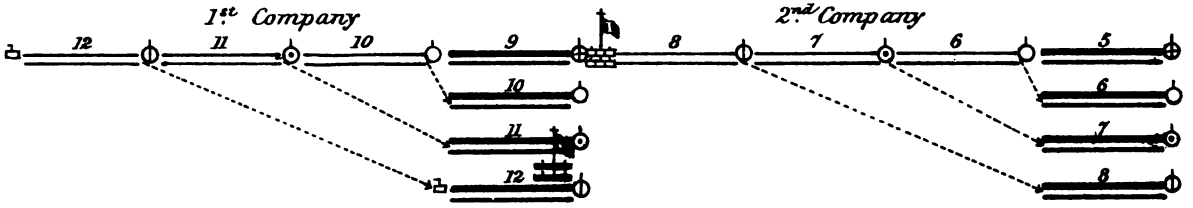
PL. XIII.

Fig. 1. Formation of Company Columns from Line.

(a) From Line in three ranks.



(b.) From Line in two ranks.



3. *Movements in Column, and changes from one description of Column to another.*

A.—Movements in Column.

(*a*) Movements in Column of Files (Reihen-Colonne).

In marching in file, the officers commanding divisions place themselves in line with the leading file of their divisions, the right markers occupy the positions vacated by the officers commanding divisions. In taking ground to the right, the subaltern officer on the left of the battalion marches in line with the left-hand file of the rear division; in taking ground to the left, he marches in the supernumerary rank, in line with the rear-rank man of his division.

If the head of the column be required to change the direction of its march, the word of command is "Head of Column—Right (or Left) Wheel—March"; after the required wheel has been made, the word "Forward" is given.

(*b*) Movements in Open Column.

In marching in open column of divisions, sub-divisions or sections, the dressing is by the right unless the word "Eyes—Left" is specially given. If the column is to be wheeled "Left into line," the word "Officers on the Left Flank" is given.

In changing direction to the right or left, the officer commanding the battalion gives the word "1st (or 8th) Division (Sub-division or Section)—Right (or Left) Wheel"; the officer commanding the leading division, sub-division, or section then gives the word "Right (or Left) Wheel—March," and, when the wheel is completed, "Forward." The remaining divisions, &c., wheel in succession, the word of command for the officers commanding being simply "Wheel—March."

In forming column of sub-divisions from column of divisions, and in forming column of sections from column of sub-divisions, if the column be right in front, the right sub-divisions or sections move straight forward; the left sub-divisions or sections incline to the right and move up in rear of their right sub-divisions or sections; if the column is left in front, on the other hand, the left sub-divisions or sections move in rear of the right sub-divisions or sections.

In forming column of files from open column of divisions, sub-divisions, or sections, the word of command is "Form Files—Right (or Left) Turn." The right (or left) hand man of the front rank of each division, sub-division, or section, continues to move straight to his front, his rear-rank man coming up on his right or left; the remainder turn to the right (or left) and follow in rear of the leading file.

Column of sections may be formed from column of files, or column of sub-divisions from column of sections, or column of divisions from column of sub-divisions. The word of command,

if the battalion is in motion, is "Form Sections (Sub-divisions or "Divisions) to the Right (or Left)—Double." If the battalion is halted, the movement may be executed in quick time or at the double. As the sections, sub-divisions, or divisions are formed, they dress towards the flank which, in the case of a battalion on the move, continued to advance in quick time, and, in the case of a battalion halted, remained steady.

(*c*) Movements of Close Column of Divisions.

The movements of a close column of division are conducted on the same general principles as the movements of an open column. As a rule, divisions are moved at quarter interval. Dressing is by the right, unless the word "Eyes—Left" is specially given. Officers commanding divisions remain on the right flank of their divisions, except when the column wheels to the left, when they change to the pivot flank. In any movements executed with the rear-rank in front, officers do *not* step up in line with the third rank.

At the word "Right (or Left) Wheel," the leading division wheels on a moveable pivot; the remaining divisions incline to the right or left, the pivot files stepping short. When the leading division has completed the wheel, the word "Forward" is given.

Column of sub-divisions, sections, &c., can be formed from column of divisions, the rear divisions stepping short in order to allow room for the formation.

(*d*) Movements of a Column of Attack.

When a column of attack moves, the divisions, are usually formed at quarter interval, although, when an attack actually takes place, they close to close interval.

Dressing is always by the centre. In moving to the front, the colour party gives the direction, but does not march in front as in the case of a movement in line. In all movements executed with the rear-rank in front, the non-commissioned officers in the centre of the column, who are on the inner flanks of divisions, move up in line with the third (or second, if the divisions of skirmishers be formed) rank. The lateral space between the two rear divisions is closed by two supernumerary non-commissioned officers.

The commanders of divisions always remain on the outer flanks of their divisions.

In wheeling, the same principles are observed as have been already laid down for the wheel of a column of divisions.

In the event of an obstacle occurring which entails a diminution of front, a double column of files, sections, or sub-divisions may be formed. In forming column of files, the colour party moves straight to its front; the divisions turn inwards; the leading divisions wheel at once to the right and left respectively, the leading files dressing by the colour party; the

remaining divisions wheel in succession. Similarly, if column of sub-divisions or sections be formed on the two centre subdivisions or sections, the colour party continues to move straight to the front, and the leading subdivisions or sections dress on it.

After the obstacle is passed, double column of divisions is re-formed.

(*e*) Movements of a Square.

When a square is required to advance, retreat, or to move to either flank, those divisions which are not already turned in the direction in which it is required to move, at once turn in that direction. When the square halts, the divisions at once turn outwards without any further word of command than "Battalion—Halt."

(*f*) Movements of a Company Column.

The movements of a company column are carried out without any regard to keeping step. The usual interval is preserved between divisions, except when attacking with fixed bayonets, or when square is to be formed, in which cases the divisions close to close interval.

With these exceptions the movements of a single company column are conducted on the principles already laid down for the movement of a close column of divisions; the movements of half a battalion are conducted on the same general principles as those already laid down for the movements of a column of attack.

In the case of a battalion of Rifles, at the word of command to "Rendez-vous," the 4 company columns can either be formed up contiguous to each other, or the 1st and 4th companies can be formed respectively in rear of the 2nd and 3rd.

(*g*) Movements of a Company Square, or Rallying Square.

The movements of a company square, or rallying square, are conducted on the same principles as those already laid down for the movements of a battalion square.

II. *Changes from one Form of Column to another.*

(*a*) Opening out and closing.

When a battalion in close column is on the move, the divisions can open out to quarter, half, or full interval, the rear divisions stepping short, until the required interval is obtained, when each division in succession receives the word "Forward."

When a battalion is halted, open column can be formed from close column either by marching all the divisions, except the rear division, to the front, and halting each division succes-

sively as the required interval is obtained, or by turning about all the divisions except the front division, and retiring until the proper intervals are obtained; each division in this latter case halts and fronts in succession. Lastly, quarter-distance column can be formed from close column by causing the rear divisions to step back until the required intervals are obtained.

Ordinarily speaking, column of divisions is formed at quarter interval, as also is column of attack. The divisions close to close interval previous to a deployment or to the formation of square, also when an attack is about to be made with fixed bayonets.

When an open column on the move receives the word "Close," the commander of the leading division gives the word "—th Division—Halt." The remaining divisions halt in succession at 4 feet interval. When it is required to form close column without arresting the march of the leading division, the word "Close,—Double," is given; the rear divisions then double up and break into quick time, when the required interval is obtained, without any further word of command. The latter of these two courses is as a rule only adopted when a column of attack at quarter interval, or a company column, is about to attack with fixed bayonets.

When an open column is halted, and the word of command "Close,—March," is given, the leading division remains steady; the remainder are halted by their divisional commanders in succession as the required intervals are obtained.

When a close column is required to pile arms, it must previously open out to quarter interval.

(*b*) Countermarch of an Open Column of Divisions.

An open column of divisions right in front may be transformed into open column left in front by countermarching. At the word "Countermarch," the commanders of divisions place themselves one pace in front of and facing the left-hand file of their divisions. The officer commanding the battalion then give sthe word "Right Turn,—March." At this word, the officers commanding divisions remain steady; the remainder of the battalion steps off together; the leading files of each division advance two paces, and then countermarch to the left; when they have arrived at the positions occupied by the officers commanding divisions, the word "Halt,—Front," is given by the officer commanding the battalion.

(*c*) Formation of Column of Attack from Close Column of Divisions.

The word of command is "Column on the Centre." If the column is right in front (*Plate* XIV., *Fig.* 1) the 4th division remains steady; the 1st, 2nd, and 3rd divisions turn to the right; the 5th, 6th, 7th, and 8th divisions turn to the left. When the word "March" is given by the officer commanding

Formation of Column of attack from close column of divisions.

Fig. 1. From Column, right in front.

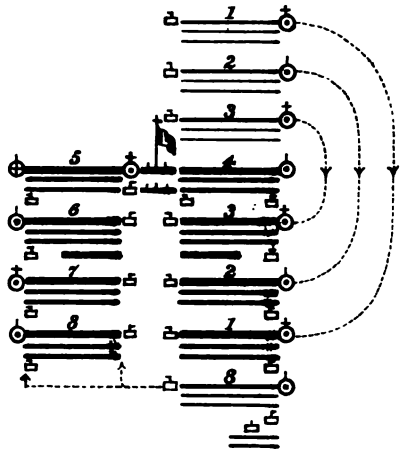
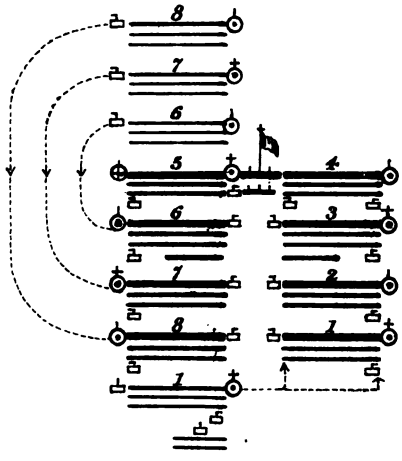


Fig. 2. From Column, left in front.



the battalion, the 1st, 2nd, and 3rd divisions advance a short distance, wheel twice to the right, and form up on their leading files in the positions previously held respectively by the 7th, 6th, and 5th divisions. The 5th, 6th, 7th, and 8th divisions march straight to their front until the rear files are four paces beyond the left flank of the 4th division; they then turn to the right, and halt as soon as the 5th division is in line with the 4th.

If the column is left in front (*Plate* XIV., *Fig.* 2) the 5th division remains steady; the 6th, 7th, and 8th divisions turn to the left; the 1st, 2nd, 3rd, and 4th divisions turn to the right. At the word "March" from the officer commanding the battalion, the 6th, 7th, and 8th divisions advance a short distance, wheel twice to the left, and form up on their leading files in the positions previously held respectively by the 4th, 3rd, and 2nd divisions; the 4th, 3rd, 2nd, and 1st divisions march straight to the front until the rear files are four paces beyond the right flank of the 5th division; they then turn to the left, and halt when the 4th division is in line with the 5th.

(*d*) Formation of Column of Attack from Open Column of Divisions, Sub-divisions, or Sections.

The officer commanding the battalion either gives the word "Column on the Centre," and, after the divisional commanders have ordered their divisions to turn in the requisite directions, the word "March," or he orders the bugler to sound "Form Column." The movement is carried out in a similar manner to the formation of column of attack from close column of divisions, except that, in the case of a column formed right in front, the officers commanding the 5th, 6th, 7th, and 8th divisions give the word "Half-Left," instead of "Left Turn," and in the case of a column formed left in front, the officers commanding the 4th, 3rd, 2nd, and 1st divisions, give the word "Half-Right," instead of "Right Turn." In either case, at the word "March," these divisions march obliquely until their front is cleared; they then receive the word "Forward"; the leading division halts when it comes in line with that division which has remained stationary; the remaining divisions close to the required interval and halt in succession.

When the bugler sounds "Form Column" the movements described above take place at once at the double, without any further word of command being necessary.

(*e*) Formation of Close Column of Divisions from Column of Attack.

The officer commanding the battalion gives the word "Column, Right (or Left) in Front." The officers commanding divisions then order their divisions to turn in the requisite direction. The officer commanding the battalion then gives

the word "March." All other words of command proceed from the officers commanding divisions.

If the column is to be formed right in front (*Plate* XV., *Fig.* 1), the 4th division remains steady; all the remaining divisions receive the word "Right Turn" from their commanders. At the word "March" the 1st, 2nd, and 3rd, divisions advance a short distance, wheel successively to the left twice, and then form up to the left on their leading files as each arrives at his proper position in front of the 4th division. The leading files of the 5th, 6th, 7th, and 8th divisions incline to the right, and take up their positions in rear of the 4th division, each receiving in succession the word "Halt—Front" from its commander.

If the column is to be formed left in front (*Plate* XV., *Fig.* 2) the 5th division remains steady; the remaining divisions receive the word "Left Turn" from their divisional commanders. At the word "March," the 6th, 7th, and 8th divisions advance a short distance, wheel twice to the right, and form up successively on their leading files as soon as they reach their proper positions in front of the 5th division. The leading files of the 1st, 2nd, 3rd, and 4th divisions incline to the left, and march in rear of the 5th division; each receives the word "Halt,—Front" in succession from its commander.

If it is required to form open column of divisions from column of attack, close column of divisions must in the first instance be formed.

(*f*) Formation of Square from Column of Attack.

See p. 16.

(*g*) Formation of Column of Attack from Square.

The word of command is "Form Column."

If the square is halted, the officers commanding the 1st 2nd, 7th, and 8th divisions, as also the commanders of the divisions of skirmishers in rear of the square, give the word "Front"; upon this order the flank files on either flank of the square at once take up their positions in their divisions. The rear divisions step backwards and halt when the required intervals are gained without any further word of command.

If the square is in motion, the rear divisions step short until the proper intervals are obtained.

In both cases the officers and non-commissioned officers at once take up their proper positions in column.

(*h*) Formation of Company Columns from Column of Attack.

The word of command from the front is "Form Company Columns."

Formation of close Column of divisions from Column of attack.

Fig. 1. Right in front.

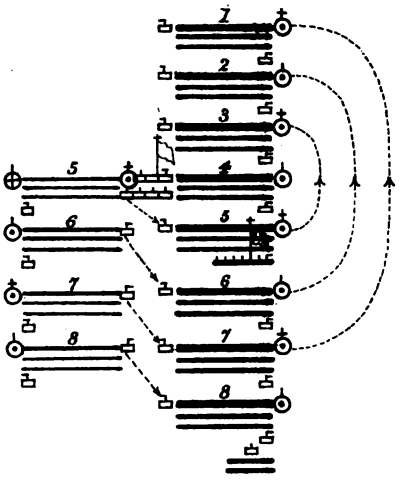
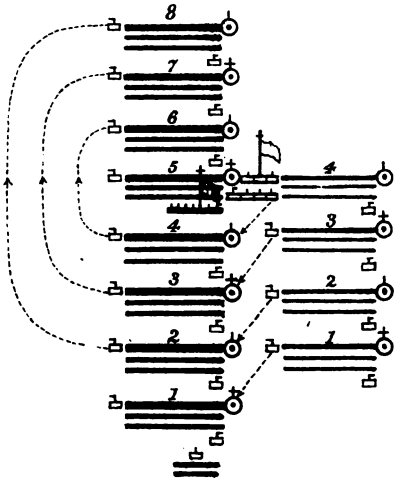
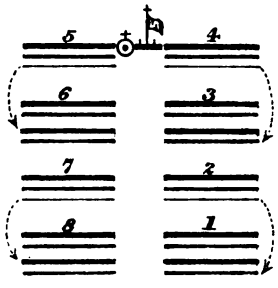


Fig. 2. Left in front.



PL. XVI

Fig. 1. Formation of Company Columns from Column of Attack.



(*h* 1) Formation of Company Columns from Column of Attack, the divisions being formed in three ranks (*Plate* XVI., *Fig.* 1).

The third ranks of the 4th and 2nd divisions turn to the right, wheel to the right, and form up on their leading man in rear of the 3rd ranks of the 3rd and 1st divisions respectively. The 3rd ranks of the 5th and 7th divisions turn to the left, wheel to the left, and form up on their leading man in front of the 3rd ranks of the 6th and 8th divisions respectively; these latter step back a short distance to allow of the formation.

The regulated interval of 6 paces between divisions is then obtained by causing the rear divisions to step back.

(*h* 2.) Formation of Company Columns from Column of Attack, with Divisions of Skirmishers formed.

If the divisions of skirmishers are formed in rear of the column, the IInd division of skirmishers turns to the right, the IIIrd division of skirmishers turns to the left; each then, by wheeling and forming up on its leading file, gains the rear of the company to which it belongs.

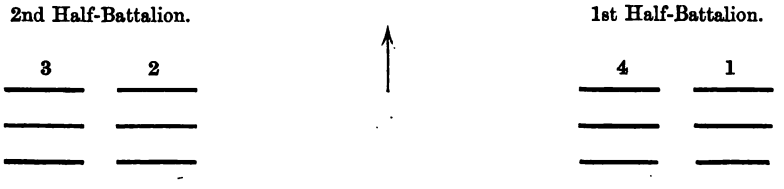
(*i*) Position of Company Columns with respect to each other, under various circumstances.

No absolute rule can be laid down for the relative positions which the four company columns of a battalion are to occupy under all circumstances. The manner in which they are to be disposed must depend on circumstances, and on the immediate object in view, and is left to the discretion of the officer commanding the battalion. As a rule, however, companies on open ground should not be separated by an interval of more than 80 or 100 paces, so that they can afford each other mutual support and readily reunite in case of necessity.

The arrangements of the company columns *inter se* admit, therefore, of very numerous and various combinations; the most usual of these combinations, however, may be said to be four in number.

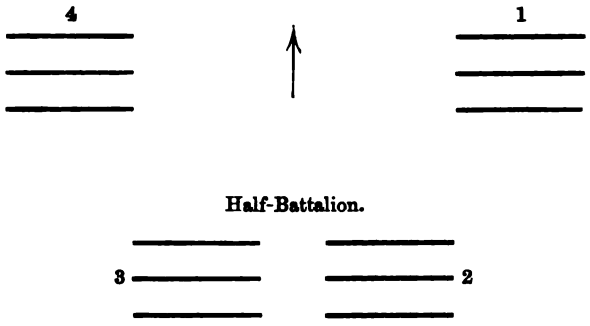
The most simple of these is the arrangement by which the four columns are disposed in line at deploying intervals.

A modification of this arrangement is shown in the following diagram :—



These two formations would only be employed if the battalion was supported by others in rear, *e.g.*, if it was acting as the advanced guard of a brigade.

A third formation, which is frequently adopted, consists of sending on the flank companies in detached columns, whilst the centre companies form a support in second line. The accompanying diagram illustrates this arrangement:—



When a battalion is acting independently, one company would usually be sent forward as an advanced guard: two companies united (or half the battalion) would constitute the main body (Gros); the 4th company would be in reserve. This arrangement is shown in the accompanying diagram.

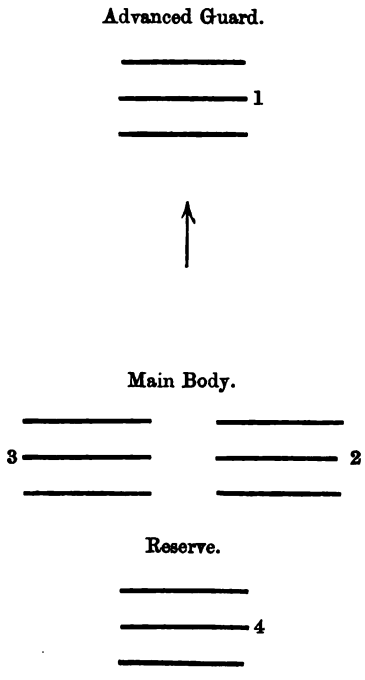
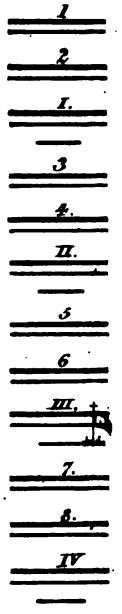


Fig. 1. Formation of Company Columns from Column of divisions.

(a) From Column of divisions, right in front.

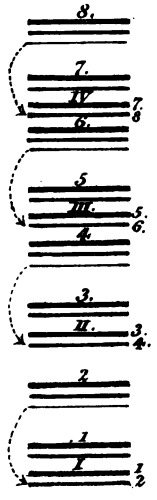
1st Movement.

2nd Movement.

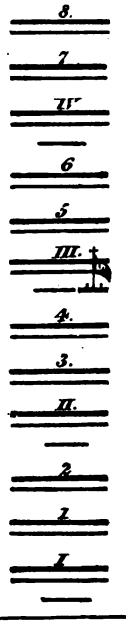


(b) From Column of divisions, left in front

1st Movement.



2nd Movement.



The colours remain with the reserve; in case the reserve should be dispersed to fight in open order, the first section of the first division always remains with the colours.

(*j*) Formation of Column of Attack from Company Columns.

If a battalion, whose companies are dispersed in separate columns is to re-form column of attack, the officer commanding the battalion indicates the company on which the formation is to take place. This company remains halted; the remainder march to it by the shortest route, and form column of attack, with divisions of skirmishers formed in rear.

(*k*) Formation of Company Columns from Column of Divisions.

The word of command from the front is, "Form company "columns."

A.—INFANTRY.

If the column of divisions be formed right in front (*Plate* XVII., *Fig.* 1. *a*), the third ranks of all the odd divisions turn to the right, wheel to the right, and form up on the leading man in front of the third ranks of the even divisions, which step back a short distance to allow of the formation.

If the column be formed left in front (*Plate* XVII., *Fig.* 1. *b*) the third ranks of all the even divisions turn to the left, wheel to the left, and form up on their leading man in rear of the third ranks of the odd divisions.

In both cases the required interval of 6 paces between divisions is obtained after the third ranks have formed up.

In the first case all the companies of the battalion will be formed in company column of divisions right in front; in the second case they will be formed in company column of divisions left in front. An early opportunity must, therefore, be taken to form the companies above the colours in column, left in front, and those below the colours in column right in front.

B.—RIFLES.

When the companies consist of two divisions only, and the column of divisions is formed right in front, the even sub-divisions turn to the right and move in rear of the odd sub-divisions; if the column is formed left in front the odd sub-divisions turn to the left and move in rear of the even sub-divisions.

If the companies are on a war establishment, and consist, therefore, of four divisions, the column of divisions already form company columns without any further movement.

In the former of the two cases the interval of six paces is obtained after the column of sub-divisions is formed.

If the column of divisions was originally formed left in

front, an early opportunity must be taken to form the company columns right in front.

4.—*Formation of Line from Column.*

(*a*) Formation of Line from Column of Files (Reihen-Colonne).

Line may be formed from column of files by merely giving the word "Right (or Left) Turn," or "Halt,—Front."

In the case of small bodies of men, line can be formed to the front by simply marching up the rear files to the right or left of the leading file, which remains halted.

(*b*) Formation of Line from Open Column.

Line can be formed to the pivot flank by a simultaneous wheel of the divisions, sub-divisions, or sections of which the column is composed. The word of command is "By Divisions "(Sub-divisions or Sections),—Right (or Left) Wheel," followed by the word "Halt," when line is formed.

Line can be formed to the reverse flank by wheeling the leading division, sub-division, or section to that flank, and by allowing the remainder to wheel up in succession, The word of command from the front is "By Divisions (Sub-divisions or "Sections),—Right (or Left) Wheel into Line," to which the word "Eyes Left" must be added if the column is formed left in front. At this word the markers of divisions double out to take up points in the new alignment; if the wheel is to the right both the markers of the 1st division, and the left markers only of the remaining divisions, double out; if the wheel is to be to the left, both the markers of the 8th division, and the right markers only of the remaining divisions, double out. All the markers turn towards the leading division of the column. The first three markers are dressed by the Officer Commanding the battalion, the remainder by the Adjutant. The Officer Commanding the leading division, sub-division, or section of the column at once gives the word "Right (or Left) Wheel,—March,—Forward," and "Halt," when the new alignment is reached.

In the case of a column of sub-divisions or sections, the rear sub-divisions and sections wheel up in succession without any further word of command. In the case of a column of divisions, each commander of a division gives in succession the word "Wheel,—March,"—"Forward," when the wheel is completed, and "Halt," when the alignment is gained. If the wheel is to the left the word "Eyes Left" must be given after the word "Forward."

When the line is formed, the officer commanding gives the word "Non-commissioned officers, Fall in," if the wheel has been to the right, or "Eyes Right" if the wheel has been to the left, at which words of command the markers take up their places in line.

In the case of a small body of men, line can be formed to

the front from column without any further word of command than "Right (or Left) March up,—March (or Double)," upon which the rear portions of the column at once march up to their positions in line with the head of the column, without any points being taken up by the markers.

In the case of an open column of divisions, line can be formed to the front by the oblique march of divisions. The word of command is "Right (or Left) March up." At this word both the markers of the leading divisions double out and take up points in the new alignment; of the remaining divisions, if the column is right in front, the left markers, or if the column be left in front the right markers, double out and take up points in the new alignment. The officer commanding the battalion gives the word "Half-Right (or Left)," at which word of command all the divisions except the leading divisions turn, and move off at the word "March," from the front. Whilst on the march the officer commanding each division shifts in succession to the reverse flank of the division which forms line next in order before his own, wheels his division into line, and halts when the new alignment is gained. When line has been formed the markers fall into their places by word of command from the front*.

(*c*) Formation of Line from Close Column of Divisions.

Line can be formed from close column of divisions by deploying on any division of the column.

(*c* 1) Deployment on the Leading Division.

If the column be right in front (*Plate* XVIII., *Fig.* 1), the word of command from the front is "Deploy to the Left." At this word of command, both the markers of the leading division, and the left markers of the remaining divisions, double out and take up points in the new alignment. The officer commanding the battalion then gives the word "Left Turn," at which word of command all the divisions turn to the left except the leading division, which remains steady. Officers commanding divisions place themselves in line with the leading file of their divisions. At the word "March" from the front, all the divisions, except the 1st, step off together. The officer commanding the 2nd division remains halted, and allows his division to pass him; when the rear file of his division comes up in line with him, he gives the word "Right Turn," and, as soon as the new alignment is reached, the word "Halt." The officers commanding the other divisions halt in succession, and bring their divisions up into line in a precisely similar manner. When the deployment is complete, the officer commanding the battalion gives the word, "Non-commissioned officers, Fall in."

If the column of divisions be formed left in front, the officer

* The formations of line from column, as yet described, would only take place on the parade ground, and are not suitable for actual service.

commanding the battalion gives the word of command "Deploy "to the Right." At this word of command both the markers of the 8th division, and the right markers of the remaining divisions double out and take up points in the new alignment. The officer commanding the 8th division gives the word "Eyes "left." At the word "Right Turn," from the front, all the divisions, except the 8th, turn to the right. At the word "March," the officer commanding the 7th division remains halted, allows his division to pass him, and then gives the word, "Left turn, —Eyes Left;" he then doubles up to the left-hand file of the 8th division, and, when his own division comes up in line, gives the word "Halt," and immediately changes his flank by the front. The other divisions come up into line in a similar manner. When the deployment is complete, the officer commanding the battalion gives the word "Eyes Right," upon which the markers fall into their proper places in line.

(*c* 2) Deployment on the Rear Division.

In this case, the rear division, when the deployment is complete, occupies the same ground as was held by the leading division when in column; the remaining divisions occupy positions to its right or left, as the case may be.

If the column be formed right in front (*Plate* XVIII., *Fig.* 2), the officer commanding the battalion gives the word "Deploy "to the Right on the Rear Division" (aus der Tiefe). At this word of command, both the markers of the 8th division, and the right markers of the remaining divisions, double to the front, and take up points in the new alignment. The officer commanding the 8th division gives the word "Eyes Left," and places himself one pace in front of the left-hand file of his division. At the word from the front "Right Turn," all the divisions turn except the 8th, which remains steady. At the word "March," all the divisions except the 8th, step off; the officer commanding the 7th division, however, remains steady, allows his division to pass him, and gives the word "Halt,—Front,—Eyes Left," as soon as the left-hand file of his division comes in line with him; he then places himself one pace in front of the left-hand file. As soon as the officer commanding the 8th division finds that his front is clear, he gives the word "March," and halts his division when the new alignment is gained; the remaining divisions are halted similarly to the 7th, and all are marched up in succession as soon as their fronts are cleared. The 1st division moves along a line, immediately in rear of the line of markers; the officer commanding this division halts when in line with the right flank of the second division, allows his division to pass him, and then gives the word "Halt,— "Front,—Eyes Left." After the deployment is complete, the markers fall in at the word "Eyes Right" from the front.

If the column be formed left in front, the deployment is effected in a manner precisely similar to that already described for a column formed right in front, exceptthat the conduct prescribed for the 8th, 7th, 6th, &c. divisions, will in this case apply respectively to the 1st, 2nd, 3rd, &c. divisions.

Formation of Line from cl

Fig: 1. Deployment of a Column formed r

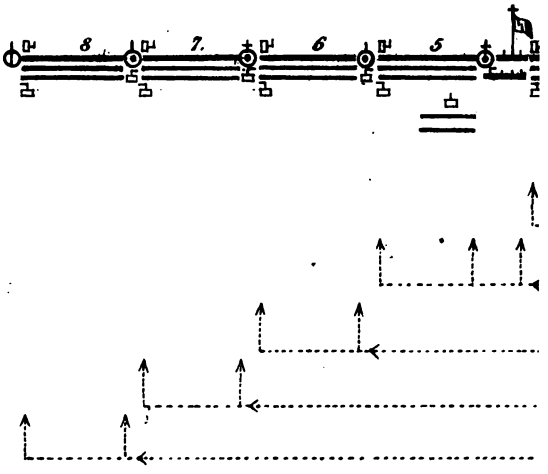
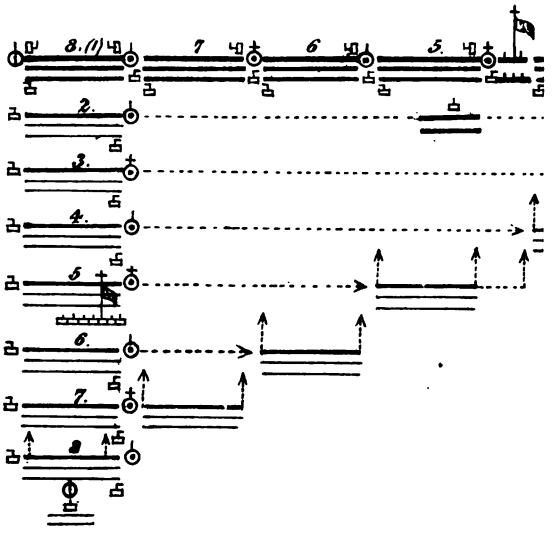


Fig: 2. Deployment of a Column formed



(*c* 3) Deployment on a Central Division.

If the column is required to deploy on any division other than the front or rear divisions, the officer commanding the battalion gives the word of command, "—th Division Remain "Steady,—Deploy to the Right and Left." At this word of command, the division named remains steady, and, as soon as its front is cleared, is marched by its divisional commander to the position occupied by the leading division when in column. The remaining divisions turn outwards and deploy into line in the manner already indicated.

(*d*) Formation of Line from Column of Attack.

Line can be formed from column of attack either by deploying in quick or double time when the battalion is halted, or by marching up (Aufmarsch) at the double when the battalion is in motion.

(*d* 1) Deployment of a Column of Attack when halted, on the two Centre Divisions.

If the battalion is halted, and the deployment can be carried out leisurely, the divisions, if at quarter distance, close to close interval; the officer commanding the battalion then gives the word of command, "Deploy to the right and left"; the standard-bearer then advances one pace and turns to his right; the right markers of the divisions above the colours, and the left markers of the divisions below the colours double out and take up points in the new alignment; they face inwards, *i.e.*, towards the colours. The officer commanding the battalion then gives the word "Right and Left Turn," upon which the 4th and 5th divisions remain steady; the 3rd, 2nd, and 1st divisions turn to the right; the 6th, 7th, and 8th divisions turn to the left; the officer on the left flank of the 5th division takes his place in the supernumerary rank. At the word "March" from the front, all the divisions which have turned step off; the 3rd, 2nd, and 1st divisions then deploy in the same manner as described for the deployment from close column of divisions left in front; the 6th, 7th, and 8th divisions deploy in the same manner as described for the deployment from close column of divisions right in front. When the deployment is complete the officer commanding the battalion gives the word "Eyes Left," upon which the markers and standard-bearer fall into their places in line.

If a rapid deployment is necessary, the officer commanding the battalion gives the word "Deploy,—Double," upon which the divisions deploy in a similar manner to that already described, but without any further words of command from the officers commanding divisions, and without any alignment being taken up by the markers.

(*d* 2) Deployment of a Column of Attack on the move.

When a column of attack is required to deploy on the march, the officer commanding the battalion gives the word of command, "Right and Left March up,—Double"; upon this word the 4th and 5th divisions continue to move forward in quick time; the colour party doubles 8 paces to the front, and serves to give the direction in which the line is to advance; the rear divisions make a half turn outwards, and double up to their positions in line without any further words of command; as each division deploys it breaks into quick time, and dresses inwards.

If the divisions of skirmishers were formed in rear of the column, they take up their positions in rear of the flank divisions of the line, either without any special word of command, if the deployment is executed at a double (*i.e.* if the battalion is on the move), or at the word of command of their own officers, if the deployment is executed in quick time (*i.e.* if the battalion is halted).

(*d* 3) Deployment of a Column of Attack on one of the Rear Divisions.

The word of command is "Deploy to the Left (or Right) on the Rear Division" (aus der Tiefe). At this word of command both the markers of the division on which the deployment is to take place double out and take up the points on which the flanks of their division will rest. Of the remaining divisions, if the deployment is to the left, the left markers, if the deployment is to the right, the right markers, double out and take up points in the new alignment. The officer commanding the battalion then gives the word "Left (or Right) Turn," according to whether the deployment is to take place on the 1st or 8th divisions, upon which all the divisions, except the 1st or 8th, turn to the left or right. The deployment is henceforth carried out in the ordinary manner, except that the 4th and 5th divisions are halted simultaneously by word of command from the front.

(*e*) Formation of Line from Company Column.

If a company column is to form line in two ranks, the divisions march in such a manner as shall be specially directed by the officer commanding the company. The deployment is carried out at the double. The line may consist of all the three divisions of a company column, or of only two divisions.

If the company column is required to form line in three ranks, the word of command "Form Company" is given. At this word, in the case of a company above the colours, the even division remains steady; the odd division, together with its third rank, forms up on the right of the even division; as soon as the front of the third rank of the even division is clear, it

closes up to the second rank. In the case of a company below the colours, the odd division remains steady; the even division, together with its third rank, forms upon the left of the odd division; the third rank of the odd division closes up to the second rank as soon as its front is clear.

If a battalion which is dispersed in company columns is to form line, the officer commanding the battalion indicates the company on which the deployment is to take place. This company at once deploys independently; the other companies march up by the shortest route, and deploy in the quickest manner possible. The divisions of skirmishers form up in rear of the flank divisions. If the battalion is to deploy in three ranks, the officer commanding the battalion must give the word "Form the Third Rank."

IV. FORMATIONS IN OPEN ORDER.

1.—*General Principles.*

In considering the most suitable method of bringing troops into action in open order, it is essential to bear in mind the necessity of adopting such formations as will enable the transition from close to open order, and *vice versâ*, to be effected with the least possible confusion and disturbance. Two alternatives present themselves, one of which must be chosen. First, skirmishers can be taken from some portion of the front of a battalion; or, secondly, the duty of skirmishing may be assigned to a special rank. In the first case, the front of the battalion is reduced, and considerable gaps are left in the line, supposing it to consist of more than one battalion. These disadvantages disappear if the second alternative be adopted, and the further important advantage is gained of rendering each company capable of acting independently, for each will possess its own skirmishers.

For these reasons the formation of a third rank, to whom the duty of fighting in open order is especially assigned, has been adopted in Prussia. The third rank of the odd division of each company forms the front rank of the division of skirmishers, whilst the third rank of the even division of each company forms the rear-rank of the division of skirmishers. Consequently, when the division of skirmishers is formed, each of the three divisions of a company is ranged in double rank. There are four division of skirmishers in each battalion, which are numbered I., II., III., and IV., according as they belong to the 1st, 2nd, 3rd, or 4th company.

The formation of the divisions of skirmishers is always possible, from any formation whatsoever of the battalion.

Although the divisions of skirmishers, as being composed of the most active men and the best shots, are preferred for purposes of fighting in open order, still every infantry soldier receives instruction in skirmishing, and, if circumstances render such a disposition necessary, all the three divisions of a company may be dispersed to skirmish.

Troops engaged in fighting in open order are divided into three separate portions, viz. :—

(1.) The Line of Skirmishers.

(2.) The Supports.

(3.) The Reserve.

In the line of skirmishers each section is usually commanded by a non-commissioned officer. The front and rear-rank man of each file remain close to each other, in order to afford each other mutual support. The distance between files depends on circumstances; on open and even ground it should not exceed 6 paces. A somewhat greater interval is left between sections. On rough and broken ground little attention need be paid to the intervals between files or between sections, the main point being to take every advantage of the natural cover which the ground affords.

The supports, which should be furnished to every line of skirmishers, should be kept as much as possible concealed from the enemy's fire. The regulations lay down 150 paces as the interval which should separate the supports from the skirmishers, but no absolute rule can be given on this subject; the position of the supports must depend upon the nature of the ground and the judgment of the officer in command. The same remark applies to the position of the reserve, which, according to regulation, should be 100 paces in rear of the supports. The reserve and supports are often amalgamated.

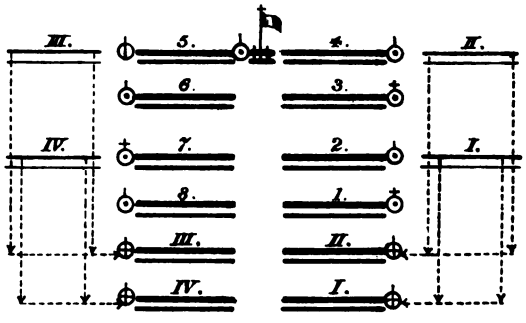
2. *Formation of the divisions of skirmishers.*

It has been already stated that the division of skirmishers which belongs to each company, is formed from the third rank of the two primary divisions which constitute the company, the front rank of the division of skirmishers being formed from the third rank of the odd division, the rear rank from the third rank of the even division.

The formation of company column entails, as a matter of permanent regulation, the invariable formation of the division of skirmishers in rear of the column. As a general rule a battalion, when it breaks into column of attack for action, forms its divisions of skirmishers. The divisions of skirmishers can also be formed when the battalion is in line, or when it is in column of divisions, sub-divisions, or sections.

In the case of a column of attack the divisions of skirmishers can be formed either in rear of the column, or part on one flank of the column and part on the other.

Formation of the divisions of Skirmishers from Column of attack.



In the case of line the divisions of skirmishers are invariably formed in rear.

The word of command for the formation of the divisions of skirmishers is always "Form Divisions from the Third Rank." The formation is carried out without any attention being paid to keeping step. If the battalion is on the move, the divisions of skirmishers form in double time. If the battalion is halted with ordered arms, it is not necessary, in the first instance, to cause the men to advance or shoulder arms.

(*a*) Formation of the Divisions of Skirmishers from Column of Attack (*Plate* XIX.).

The third ranks of the divisions above the colours turn to the right, those of the divisions below the colours turn to the left. The divisions of skirmishers then form on the flanks of the column at six paces interval; the IInd and IIIrd divisions of skirmishers form in line with the 4th and 5th divisions of the battalion; the Ist and IVth divisions of skirmishers form in line with the 2nd and 7th divisions of the battalion. As the men of the third rank of the odd divisions above the colours have to form the front rank of the divisions of skirmishers, it will be necessary for them to pass through the men belonging to the third rank of the even divisions above the colours. When the divisions of skirmishers are formed, the officer commanding the battalion gives orders as to the subsequent positions which they are to take up. At the word "Divisions of Skirmishers to the Rear," the officers commanding those divisions give the word "About—March," followed by "Right (or Left) Turn," when the divisions arrive in line with the positions they are to occupy in the column. When these positions are gained, the word "Halt, —Front" is given to each division of skirmishers by its commanding officer. The formation of the divisions of skirmishers at the head of the column is conducted on precisely similar principles. If it is required to form two divisions in front of the column and two in rear of it, the IInd and IIIrd divisions of skirmishers turn respectively to the left and right, and march in files to their positions in rear of the column; the Ist and IVth divisions of skirmishers march to their front and turn respectively to the left and right when in line with the positions they are to occupy in column.

It is possible, however, to form the divisions of skirmishers in rear of the column, without, in the first instance, forming them to the flanks. In this case, the word "Form Divisions of "the Third Rank in Rear of the Column," is given. At this word of command (if the divisions are formed in quarter-distance column) the third ranks of the 1st and 8th divisions turn about, and step respectively 16 and 17 paces to the rear; the 3rd ranks of the 4th, 3rd, and 2nd divisions turn to the right, wheel to the right, and form up to the right on their leading men in their proper positions in rear of the column. The third ranks of the 5th, 6th, and 7th divisions turn to the left, wheel to the

left, and form up to the left on their leading men in their proper positions in rear of the column.

(*b*) Formation of the Divisions of Skirmishers from a Battalion in Line (*Plate* XX., *Fig.* 1).

The third ranks of the 2nd and 4th divisions turn to the right, and march respectively in rear of the third ranks of the 1st and 3rd divisions. The third ranks of the 6th and 8th divisions take two paces to the rear; the third ranks of the 5th and 7th divisions turn to the left, and march respectively in front of the third ranks of the 6th and 8th divisions. The divisions of skirmishers are thus for the moment formed in rear of the 1st, 3rd, 6th, and 8th divisions of the battalion. The officers commanding the Ist and IVth divisions of skirmishers then give the word "About—March," retreat 12 paces, and then halt and front; the officers commanding the IInd and IIIrd divisions of skirmishers turn respectively to the right and left, and march their divisions to positions midway respectively between the Ist division of skirmishers and the 1st division of the battalion, or between the IVth division of skirmishers, and the 8th division of the battalion.

If the divisions of skirmishers consist of more than 20 files, they can, if necessary, be formed in column of sub-divisions (*Plate* XX., *Fig.* 2). In this case the officer commanding the battalion gives the word of command "Divisions of the Third "Rank, form Sub-divisions"; at this word of command the even (second) sub-division of the IInd and Ist divisions of skirmishers at once turn to the right, and take post in front of the odd sub-divisions; the odd (first) sub-divisions of the IIIrd and IVth divisions of skirmishers turn to the left, and take post in front of the even sub-divisions.

In order to reform divisions, the officer commanding the battalion gives the word "Divisions of the Third Rank March "up in Divisions,—March." At this word the divisions at once re-form; in the case of the divisions above the colours the odd sub-divisions remain steady and the even sub-divisions form up; in the case of the divisions below the colours, the reverse is the case.

(*c*) Formation of the Divisions of Skirmishers from Column of Divisions, Sub-divisions, or Sections.

The divisions of skirmishers form on the flank of the column at 6 paces interval and in divisions, sub-divisions, or sections, according as the column itself is one of divisions, sub-divisions, or sections. They form in line with the 1st, 3rd, 6th, and 8th divisions. In the case of a column formed right in front, the divisions of skirmishers form to the right of the column; in the case of a column formed left in front they form to the left of the column. In the latter case the third ranks of the odd divisions of the battalion have to pass through the third ranks

Fig. 1. Formation of the divisions of Skirmishers from a Battalion in Line.

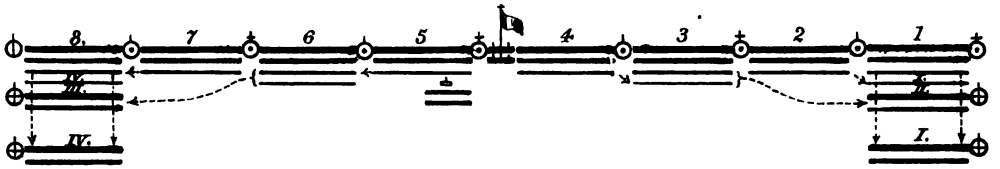
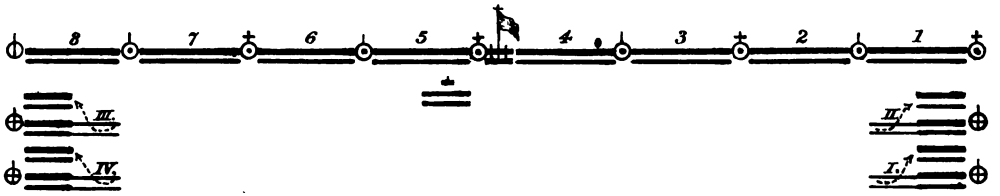


Fig. 2. Formation of the divisions of Skirmishers in Column of sub-divisions.



PL. XX.

of the even divisions. In the case of a column of sub-divisions or sections formed left in front, the divisions of skirmishers can most readily be formed by causing the head of the third ranks of the odd divisions to wheel after turning, and to march in front of the third ranks of the even divisions.

3. *Formation, &c., of the Line of Skirmishers.*

A.—Infantry.

(*a*) General Principles.

The general principles which guide the formation and manœuvres of skirmishers may be said to be as follows:—

1. In the case of company columns the division of skirmishers, formed of the third rank of the other two divisions, is usually employed to skirmish in the first instance, but no fixed rule is laid down on the subject. In the case of a battalion acting as a whole, the Ist and IVth divisions are invariably employed in the first instance to skirmish, or, if the battalion be formed in column of sub-divisions, the rear sub-divisions of those divisions are so employed.

2. After a division of skirmishers has been moved to the front, the word "Extend" (Schwärmen) is given, upon which only one section disperses in open order, unless a larger number of sections be specially ordered to extend simultaneously. Each successive time the word "Extend" is given, another section opens out.

3. In the case of a company above the colours, the sections disperse in open order in succession from the right; in the case of a company below the colours, they disperse in succession from the left.

4. All movements of skirmishers are executed rapidly; when an advancing line of skirmishers has to be reinforced, the supports move up in double time; when a retreating line is reinforced the supports extend, wait for the line to reach them, and then move on with the line.

5. All movements of supports and of company columns are carried out without any regard being paid to keeping step. The word "Without Step," as a caution, precedes the order "March."

6. The officer commanding the division of skirmishers, together with the bugler, remain with the skirmishers or with the supports, according as to whether a larger body of men are skirmishing or are in support.

(*b*) Formation of the Line of Skirmishers from Company Column.

The order to "Extend" may be given either by word of mouth or by sound of bugle. At this order one section of the division of skirmishers (in the case of a company above the colours the right section, in the case of a company below the

colours the left section) at once moves to the front of the column and extends. The remaining sections of the division of skirmishers move to the front of the column in file, form line, advance 100 paces, and halt. The section in extended order moves to the front until the halt is sounded, or until it arrives at any ground which it may have been previously ordered to occupy (*Plate* XXI., *Fig.* 1. *a*).

If the company column is formed in column of sub-divisions the remaining section of the rear sub-division only moves forward as a support (*Plate* XXI., *Fig.* 1. *b*).

If the line of skirmishers has to be reinforced, at every successive order to "Extend" one section of the division of skirmishers extends on the right or left flank of the line according to the special orders it receives. If the company is formed in column of sub-divisions, the rear sub-division moves forward as a support as soon as the sub-division immediately in front of it has opened out in extended order.

If a whole division is dispersed to skirmish, the remaining two divisions of the company serve as a support at a distance of 150 yards from the line of skirmishers (*Plate* XXI., *Fig.* 2).

If a still further reinforcement to the line of skirmishers becomes necessary, the sections and sub-divisions are usually, in the first instance, taken from the rear division. The sections and sub-divisions of one division always act immediately contiguous to each other when possible.

If a whole company is dispersed to skirmish, at least one section always remains in close order, in rear of the centre or of one of the flanks of the line of skirmishers.

(*c*) Formation of the Line of Skirmishers from Column of Attack.

At the order to "Extend," the right section of the Ist division of skirmishers and the left section of the IVth division of skirmishers move off and extend in front of the column. The remaining sections of these divisions are turned outwards by their own officers, march to either flank until their front is clear, and then turn to the front; they do not, therefore, mask the front of the column; they advance 100 paces in front of the head of the column, and then halt; the skirmishers advance until "Halt" is sounded (*Plate* XXII., *Fig.* 1).

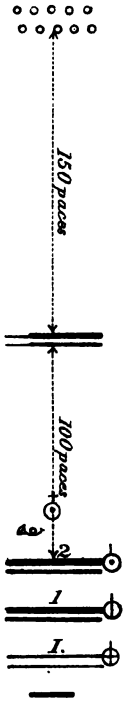
When it is required to reinforce the line of skirmishers, the order to "Extend" is again given, upon which one section of each of the two divisions of skirmishers in front of the column extends on either flank of the line of skirmishers. The supports follow in rear of the extreme flanks of the line of skirmishers.

When the whole of the Ist and IVth divisions of skirmishers are extended, the IInd and IIIrd divisions move to the front to act as supports, and halt 100 paces in front of the line occupied by the head of the column of attack and in rear of the extreme flanks of the line of skirmishers (*Plate* XXII., *Fig* 2).

If a column of attack moves forward to carry a position at

Fig. 1. Formation of the line of Skirmishers from Company Column.

a) From Company Column of divisions.



b) From Company Column of sub-divisions.

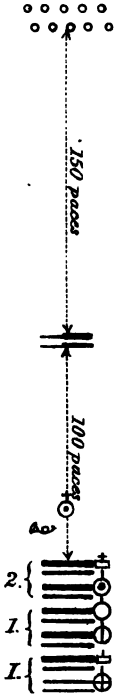
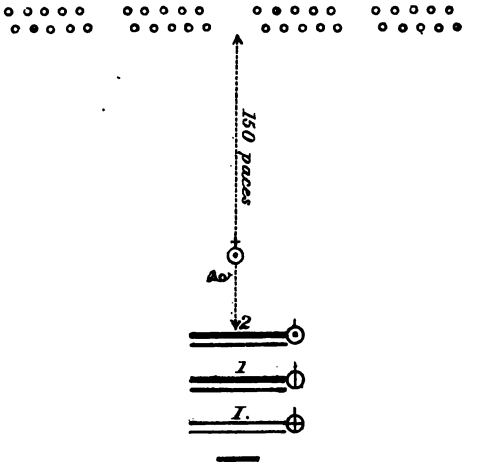


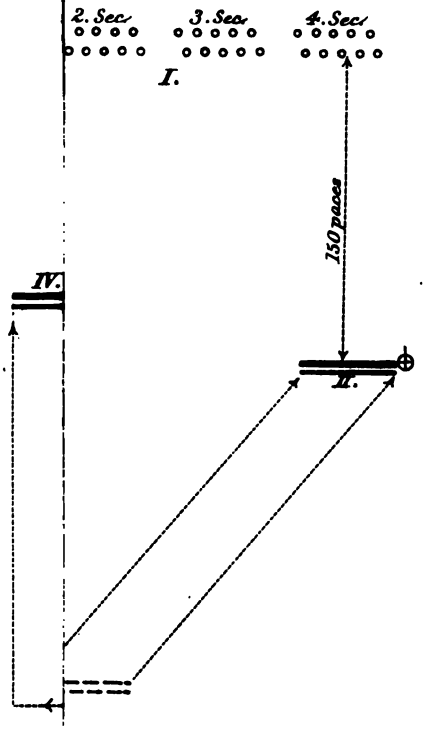
Fig. 2. Company Column with line of Skirmishers formed.



PL. XXI.

Fig. 1. Fo k
rmed.

PL. XXII.



PL. XXIII.

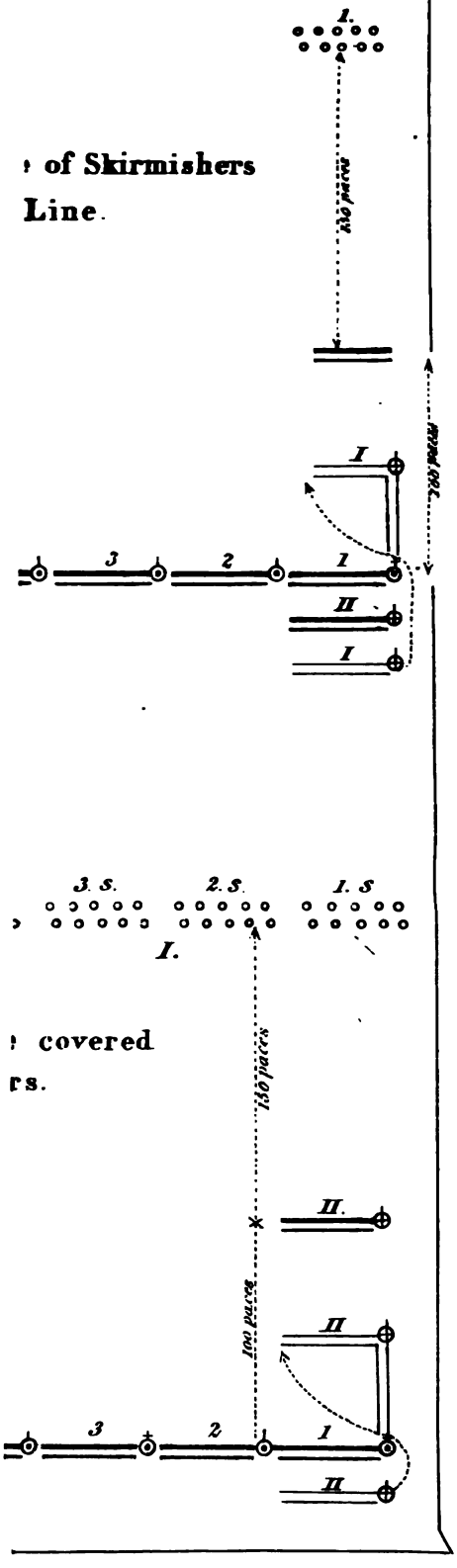

1.
of Skirmishers
Line.
I
3
2
1
II
I
3. S.
2. S.
1. S
I.
covered
rs.
150 paces
II.
100 paces
II
3
2
1
II

Fig. 1. Formation of Line of Skirmishers from Company Column (Riflemen.)

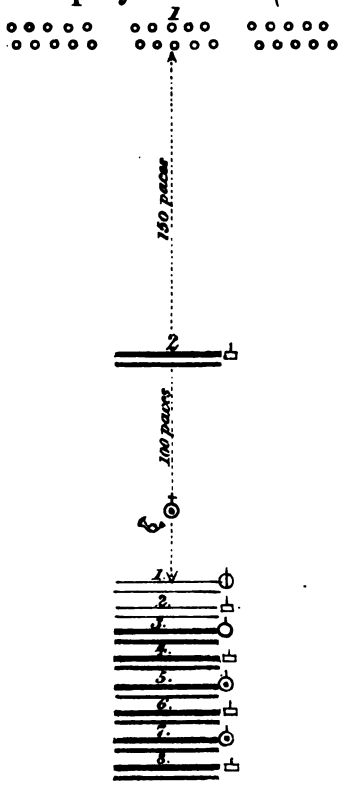
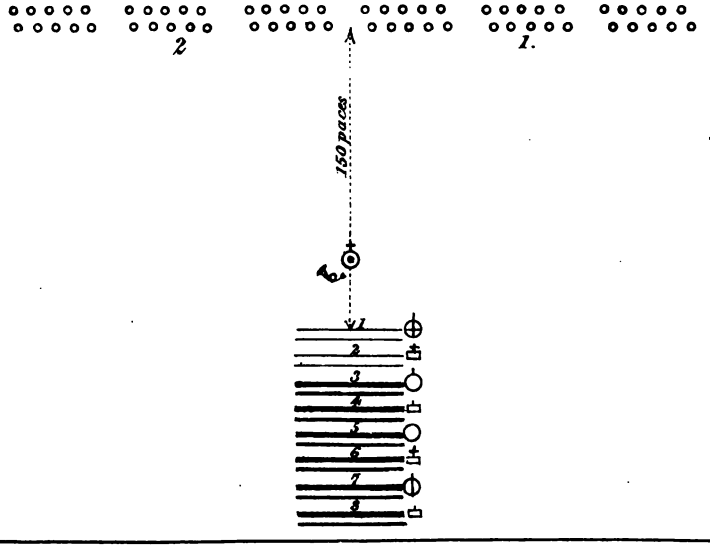


Fig. 2. A Company of Rifles in Company Column of Subdivisions covered by a Line of Skirmishers.



the point of the bayonet without being covered by a line of skirmishers, the officer commanding the battalion gives the word of command "Skirmishers in the Intervals," upon which the whole of the Ist and IVth divisions of skirmishers extend on either flank in line with the head of the column (*Plate* XXII., *Fig.* 3).

The IInd and IIIrd divisions of skirmishers may be similarly extended on a repetition of the order "Skirmishers in the Intervals," but this would only be given under very exceptional circumstances.

(*d*) Formation of the Line of Skirmishers from a Battalion in Line.

At the order to "Extend," the right section of the Ist division of skirmishers and the left section of the IVth division of skirmishers extend respectively in front of the 1st and 8th divisions of the battalion. The remaining sections of the Ist and IVth divisions of skirmishers turn respectively to the right and left, wheel past either flank of the battalion, and follow the skirmishers as supports; they halt 100 paces in front of the battalion; the skirmishers continue to advance until the "Halt" is sounded (*Plate* XXIII., *Fig.* 1).

If it is required to reinforce the line of skirmishers, at every successive order to extend, a section of the Ist and IVth divisions of skirmishers extends on the inner flank of the line of skirmishers already formed. The eight sections of these two divisions, when extended, are sufficient to cover the front of the battalion; when they are all extended the IInd and IIIrd divisions of skirmishers come to the front to act as supports (*Plate* XXIII., *Fig.* 2).

If the divisions of skirmishers are formed in rear of the battalion in column of sub-divisions, as in *Plate* XX., *Fig.* 2, the rear sub-divisions of the Ist and IVth divisions of skirmishers extend, in the first instance, in front of the battalion, the next sub-division of each division moving to the front as a support.

B.—Riflemen.

(*a*) Formation of the Line of Skirmishers from Company Column.

At the signal to "extend," the leading sub-division extends in open order, each section forming a separate group (Feuergruppe). The 2nd sub-division follows in close order as a support, and halts 100 paces in front of the column; the skirmishers advance until ordered to halt (*Plate* XXIV., *Fig.* 1).

When it is required to reinforce the line of skirmishers, the 2nd sub-division extends and the company column acts as the support (*Plate* XXIV., *Fig.* 2). If a further reinforcement becomes necessary, the leading sub-division extends, and so on, but in every case at least one sub-division must be left either in rear of the centre or of one of the flanks of the line of skirmishers.

V.—MOVEMENTS IN OPEN ORDER.

Every individual man in the line of skirmishers is allowed a certain amount of independence in movement and action; it is not necessary that he should advance in a rigidly straight line, or that he should carry his rifle in any particular manner, or fire from any particular position or keep step, but he must always keep his attention fixed on his commander and be careful not to neglect the calls of the bugle.

All movements of skirmishers and their supports are carried on by sound of bugle.

Movements of skirmishers should be carried out briskly, but not in double time, save under exceptional circumstances; running causes the men to lose their breath, and therefore to fire inaccurately.

The chief point to which attention should be paid is that every advantage should be taken of the nature of the ground to obtain cover for as long a time as possible. All fighting in open order calls for the exercise of great intelligence on the part of both officers and men; the men should be especially taught not to waste their fire. They should endeavour to pick off the enemy's officers; when opposed to Artillery in action they should aim at the men serving the guns; if a battery of Artillery is in motion they should endeavour to pick off the horses, &c., &c.

As regards the number of men who should be employed simultaneously in skirmishing, previous to the year 1861 the general principle adopted in the Prussian Army was that as few men as possible should be dispersed to skirmish; this regulation has, however, undergone considerable modifications; the universal introduction of breech-loading arms has given an increased importance to skirmishers, and has rendered it more than ever necessary to avoid bringing large collected masses of troops under fire. It cannot be doubted that in all future wars skirmishers will be much more plentifully employed than has heretofore been the case*.

---

* This was written in 1870, prior to the late war.—(Translator).

Scott, H. Y. D., *c.* R.E.
Scratchley, P. H., *m.* R.E.
Simmons, Sir J. L. A., KCB. R.E.
Sorel, P., *m.* Rl. Jersey Mil. Art.
Speranza, J., *lt.* R.M.F.A.
Stuart, W. J., *m.* R.E.
Vickers, C., *lt.* Kent Mil. Art.
Waring, W. T., *capt.* do.

SPECIAL HONORARY MEMBERS.

Abel, F. A., Esq., FRS.
Armstrong, Sir W., CB.
Bashforth, Rev. F., BD.
Fairbairn, Sir J., FRS.
Gordon, Captain H. W., CB.
Hewitt, T., Esq., FSA.
Mallet, R., Esq., FRS.
Moncrieff, Captain A.
Palliser, Major W., CB.
Percy, J., Dr., FRS.
Whitworth, Sir J.

THE MINOR TACTICS OF FIELD ARTILLERY.

BY

LIEUT. H. W. L. HIME, R.A.,

["TRUNNION."]

THE R.A. INSTITUTION PRIZE ESSAY OF 1871.

"Die vermehrte Feuerwirkung der Geschütze auf weitere und die verminderte auf nähere Distanzen hat die Artillerie gezwungen dem Kampf auf weitere Entfernungen mehr Aufmerksamkeit zuzuwenden, den auf nähere zu vermeiden."—*Boguslawski.* "*Entwickelung der Taktik.*"

THE officer commanding a battery of field artillery in action is called upon to solve a series of questions which may be classed under six heads, namely—

1. Where to fire.
2. When to fire.
3. What to fire at.
4. What to fire.
5. When to move.
6. How to move.

There are many other questions of the highest importance connected with the use of artillery in the field—such as the proportion which the artillery of reserve ought to bear to the artillery of division, the proper constitution of the artillery of reserve, the circumstances under which artillery ought to be used in masses, &c., &c. But with such questions I am not at present concerned, because they belong to grand, not to minor tactics, and present themselves for solution rather to the Commander-in-Chief of an army in consultation with the officer commanding the artillery than to officers commanding batteries.

It remains, then, to consider successively the six great problems on whose correct solution the safety and success of a battery in action essentially depend.

1. *Where to fire.*

In selecting the position for a battery, the ground must be considered both in plan and profile.

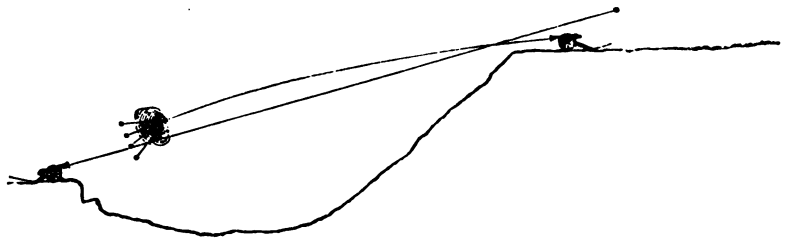
As regards the profile of the ground, the guns must be placed neither

too high nor too low. If they are placed in a hollow, not only are they confined in what may be looked on as a shell-trap, but all view of the surrounding country and the movements of the enemy is cut off, and any attempt to carry on an effective fire is hopeless. Fig. 1 will illustrate my meaning.

Fig. 1.

Nor should the guns, even when otherwise well placed, be brought into action on ground very much below the level of the position occupied by the enemy, as in Fig. 2; first, because while the enemy has a clear view of every part of the battery, his own position is entirely

Fig. 2.

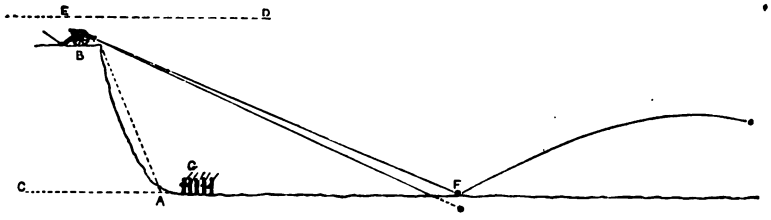


hidden from sight; secondly, because even if his position be partly visible, the velocity of projectiles on reaching such heights is necessarily reduced to some extent, and the success of such projectiles as shrapnel depends almost entirely on the velocity of the fragments on striking the object fired at.

The evils which result from perching guns on the highest eminence at hand are sevenfold. In the first place, as Frederick the Great pointed out in his Potsdam Regulations, all the advantages of a flat trajectory are lost by this "pernicious practice." Secondly, solid shot, shell with percussion fuzes, and shell with time fuzes bored somewhat too long, will stick fast in the ground and prove almost innocuous, owing to their very great final velocity, especially if the ground be in any degree soft. It was to this circumstance that Wellington's Light and 7th Divisions owed their escape from destruction at the crossing of the Huebra in 1812. To protect the English artillery, which was crossing the river, from the attacks of the French cavalry, these divisions were placed in columns on the bank, exposed to a heavy fire from the French artillery; yet they "suffered little loss, because the saturated clayey soil swallowed

the shot and smothered the shell."[1] If, in the third place, the enemy occupies hard ground, solid shot and blind shell will break up on the first graze, or rebound to such heights as to render their ricochet of no value. Fourthly, if the inclination of the height on which the guns are posted, *BAC* (Fig. 3), greatly exceeds the extreme depression that can be given to field guns, *DEF*—about 5° in the British service—the

Fig. 3.



enemy can form in perfect security for an attack on the guns, at the base of the height *G*. This happened to the Russian artillery at Kunersdorf, 1759,[2] and, by an accident that could not have been foreseen, to our own guns at Waterloo. "The enemy rushed down the hill" (having been driven back by the fire of the English infantry and artillery) "forming again under its shelter, and in a great measure covered from the fire of our guns, which by recoiling had retired so as to lose their original and just position. But in a deep stiff soil, the fatigue of the horse artillerymen was great, and their best exertions were unable to move the guns again to the crest without horses; to employ horses was to ensure the loss of the animals."[3] Fifthly, a battery posted as in Fig. 3 may happen to form a target for a number of the enemy's guns. Solely from this cause, Senarmont was forced to order a battery which he had at first placed on a hillock into lower ground, at the beginning of the battle of Eylau.[4] Sixthly, the ineffective fire of the guns, enfeebled by these causes, will raise the courage of an advancing enemy and will proportionally depress the spirits of our own men; and seventhly, the ammunition, which is worth its weight in gold, is uselessly frittered away.

The most obvious lesson to be learned from the campaigns of 1866 and 1870 is, that it is not alone desirable but necessary to cover the guns and horses of a battery from the enemy's fire, either by field entrenchments or by the accidents of the ground; for it is only when so covered that the battery can be ensured against destruction from the enemy's infantry and artillery fire, and that the men can preserve that *sang froid* which is essential for carrying on an effective fire.

---

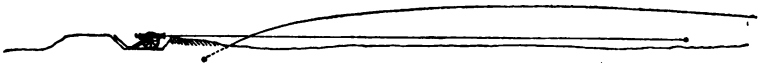
[1] Napier's "Peninsular War," Vol. IV. p. 385.
[2] De Ternay's "Traité de Tactique," Tom. I.
[3] Frazer's "Letters during the Peninsular and Waterloo Compaigns," p. 588.
[4] "Mémoires sur le Gén. Senarmont," pp. 26, 27.

The most favourable position for guns is a gentle hillock, sloping gradually to the front and more abruptly towards the rear, with a command over the ground occupied by the enemy of about 1 in 100—such as is shown in Fig. 4. In case the ground does not rise in front

Fig. 4.

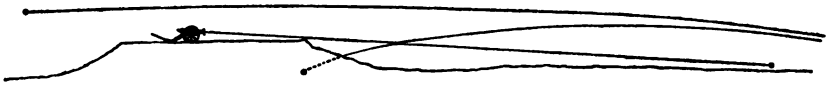
of the guns, as in Fig. 4, it is by all means desirable to throw up a small entrenchment, or form a gun-pit, to supply the necessary cover, as in Fig. 5.

Fig. 5.



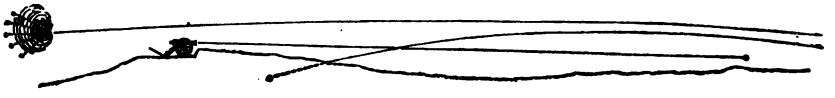
If the top of the hillock be flat and its command sufficient, as in Fig. 6, the guns will not require any epaulment.

Fig. 6.



If the top of the hillock be rounded off sharply, as in Fig. 7, a small level platform must be dug out on the rear slope; for otherwise it

Fig. 7.



would be not only impossible to give sufficient depression to the gun, but the force of the recoil would drive the gun down the back slope of the hill.[1] This course might be adopted with success in case the guns occupy a railway embankment, where the breadth and command are not sufficient to defilade the guns in the way shown in Fig. 6.

If a canal, a sunken road, or a railway cutting be at hand, parallel to the front of the battery, the guns should be run close up to the edge,

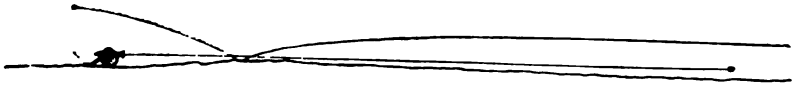
[1] This actually happened to a battery in Bhootan in 1864, at the attack on Dewangiri.

as in Fig. 8; because all shot or shell falling slightly short are caught by the slope in front and prevented from ricochetting.[1]

Fig. 8.

A low bank, a hedge-row, or a furze-bush may be made use of in the same way as the epaulment in Fig. 5; and even a slight irregularity of ground, as in Fig. 9, may prove highly useful.[2]

Fig. 9.



As regards the ground in plan, guns may be drawn up with good effect behind a marsh, a pond or river, or a ravine; provided always that such obstacles do not render an advance to the front impossible, and that in the case of the ravine, it is not occupied by the enemy. Such ground is not only unfavourable to the enemy's artillery fire, but secures the guns against any sudden rush of cavalry or infantry. The flanks of the battery are secured in the same way as the flanks of other troops. If the guns are placed in the neighbourhood of woods, brushwood, or other cover of which the enemy's skirmishers may take advantage, these positions must be attacked and occupied by our own infantry, or the gunners will be annihilated. Heavy, muddy ground, as well as stony ground, should be avoided; as it is difficult to move the guns by hand in the former, and the men and horses may be wounded by fragments of stones in the latter. In fine, the ground for 50 to 100 yds. in front of the battery should be as unfavourable as possible to the enemy's artillery fire, and the ground both in front and flank should be of such a nature as to render a *coup-de-main* impossible.

The importance of a thorough knowledge of a position cannot be overestimated by officers of the field artillery; for the security of a battery depends almost entirely, and the efficacy of its fire to a large extent, upon the use that is made of the accidents of the ground.[3]

2. *When to fire.*

If the ground and atmosphere be favourable, and there be means in the battery of finding the range accurately, the guns may open fire at

---

[1] Decker's "Artillerie à cheval, &c.," p. 107. Jervis' "Manual of Field Operations," p. 114. The American "Field Artillery Tactics," p. 43.

[2] "Mémoire sur Senarmont," p. 22.

[3] Thiroux, "Instruction de l'Artillerie," p. 365. I need hardly say that guns should never be posted near combustible materials, such as wooden houses, haystacks, and the like.

2500 yds.[1] Under exceptional circumstances, they may commence firing at 3000 yds.; but practice ought not to be carried on beyond this limit, not because the guns cannot reach greater distances, but because it is impossible even with a good telescope to ascertain the effect of projectiles at longer ranges.

Frederick the Great directed that in case the general of the brigade or division ordered the artillery to open fire before the enemy came within effective range, the order was to be obeyed, but the guns were to be fired as slowly as possible.[2] No well-ordered battery, as Decker remarks,[3] should pay attention to the outcries of staff officers who, while the enemy is still many thousand yards distant, gallop wildly among the guns, shouting out amain to open fire. There is not an artillery officer in France, says the Maréchal de Peretsdorf, commenting on this sentence, who has not a hundred times witnessed such humiliating scenes. I dwell on this subject, because staff officers destitute of all knowledge of artillery tactics and of all control over their own feelings are not confined to Germany and France. It is so much the more necessary for artillery officers to bear in mind that success in battle depends now more than ever upon the efficacy of their fire, and that the efficacy of that fire depends almost entirely upon the gunners preserving their self-possession and calmness.[4]

I have laid it down that if the atmosphere be in a favourable state, and if there be means in the battery of accurately finding the range, fire may be opened at 2500 yds. Nothing remains to be said on the first of these conditions, but I must strongly insist on the importance of the second. The probable errors in judging distances from a fixed spot by the eye are, practically speaking, directly proportional to the distance of each object from the observer; the greater the distance of the object, the greater being the probable error. It is therefore of the greatest moment that a range-finder of some description be issued to the field artillery without delay; because the campaigns of 1866 and 1870 prove clearly, as Boguslawski says, that while the importance of artillery fire at long ranges has been largely increased by the recent improvements in guns, its value at short ranges has considerable fallen, partly from the diminished calibre of the guns and the proportionally

---

[1] See the sensible and excellent remarks of the Prince of Hohenlohe-Ingelfingen, Commandant of the Artillery of the Prussian Guards, in his "Ideen über die Verwendung der Feld-Artillerie," Berlin, 1869, p. 10, et seq.; Taubert's "Gebrauch die Artillerie im Feldkriege," Berlin, 1870, p. 23; Boguslawski's "Entwickelung der Taktik," Berlin, 1869, p. 124; Witte's "Artilleristisches Taschenbuch," Berlin, 1870, p. 231; Field-Marshal von Moltke's "Bemerkungen über den Einflusz der verbesserten Schutzwaffen auf das Gefecht," in the "Beilage zu Nr. 27 des Militair-Wochenblattes, für den 8 Juli, 1865;" "Aide-Mémoire portatif de campagne à l'usage des officiers d'Artillerie," Paris, 1864 (the last edition), p. 174.

[2] Taubert's "Field Artillery" (Maxwell's Trans.), 1856, p. 78.

[3] Decker's "Cavalry and Horse Artillery" (Begbie's Trans.), p. 82.

[4] "In order to take advantage of the increased powers of modern firearms, the following conditions are necessary;—the object aimed at should be well defined, the range accurately determined, and the fire delivered with calmness and deliberation."—Field-Marshal von Moltke's "Bemerkungen, &c." Translated by Lieut. H. R. G. Craufurd, R.A. See also von Hoffman's "Feld-Kanonier," Berlin, 1869, p. 265.

diminished efficacy of canister,[1] and partly from the greater range and greater effect of infantry fire.

3. *What to fire at.*

"In the different phases of an action," says Taubert, "one arm is wont to be of predominant importance."[2] It is on this arm of an enemy's force, be it his cavalry, his artillery, or his infantry, that the captain of a battery should bring his guns to bear. Should any doubt arise as to which arm of the opposing force is really predominant, then as a general rule, to which there are many more exceptions when our own army is acting offensively than when acting defensively, the guns should be directed on the enemy's cavalry and infantry, and not on his artillery. The reason is that if the cavalry and infantry of the enemy's army are broken by artillery fire, the artillery is almost sure to be captured, while infantry and cavalry may succeed in escaping after their artillery has been silenced. That no doubt may remain on this subject, I shall quote the opinions of a number of generals and military writers on it.

Napoleon said at St. Helena that the chief object of the artillery ought to be the enemy's infantry and cavalry.[3] The Marquis de Ternay almost repeats Napoleon's words;[4] Jomini lays down that at least two-thirds of the guns should exclusively confine their fire to the opposing infantry and cavalry;[5] and Vial supports Jomini.[6] These may be regarded as representing the general convictions of French officers.

The Russian General Okouneff,[7] and the Swiss General Dufour,[8] express a similar opinion, which is coincided in by the American General Halleck,[9] and the American Colonel Lippitt.[10] The Italian General Giustiniani agrees, as far as defensive battles are concerned.[11]

Colonel Hamley supports the principle I have laid down,[12] followed by Colonel Macdougal[13] and Lieut. Steward;[14] it is approved of by the Prussian General Taubert,[15] by Boguslawski,[16] and by Witte;[17] and it is

---

[1] "Ranges, and Nolan's Range-finder," by Capt. Nolan, R.A., in the "Journal of the United Service Institution," Vol. XIV. No. 57, p. 6. "L'Artillerie de campagne Belge," par. Cap. Nicaise, p. 37–42; and Field-Marshal von Moltke's "Observations" in the "Beilage zu Nr. 27 des Militair-Wochenblattes für den 8 Juli, 1865."

[2] "On the use of Field Artillery" (Maxwell's Trans.), p. 54.

[3] Las Cases' "Mémoires," Vol. II. p. 285.

[4] "Traité de Tactique," Tom. I. pp. 293, 348, 349.

[5] "Précis de l'art de la guerre," ch. 7, art. 46.

[6] "Cours d'Artillerie et de l'Hist. Mil.," p. 228.

[7] "On the use of Artillery in the Field," p. 31.

[8] "Strategy and Tactics," p. 313.

[9] "Elements of Military Art and Science," p. 129.

[10] "Tactical use of the Three Arms," p. 71.

[11] "Essai sur la Tactique," p. 252.

[12] "Operations of War," p. 334.

[13] "Theory of War," p. 237.

[14] "Elementary Treatise on Artillery." Bombay, 1864.

[15] "Gebrauch der Artillerie im Feldkriege." Berlin, 1870, p. 20.

[16] "Entwickelung der Taktik." Berlin, 1869, p. 151.

[17] "Artilleristisches Taschenbuch." Berlin, 1870, p. 231, et seq.

implied by the Austrian Captain Müller,[1] if I rightly understand his remarks on this subject.

It may be concluded, then, that guns should bear on that arm of the enemy's force which threatens us most, and that if doubt should arise as to which the predominant arm be, our artillery should devote its attention to the infantry and cavalry, rather than to the artillery of the opposing force.[2]

4. *What to fire.*

The nature of the object fired at determines the ammunition that is to be used.

Common shell is used, with time fuze set long, against ordinary buildings, wooden houses, earthworks, and combustible materials. It is laid down in most books that common shell may also be used against troops in mass or behind cover, with time fuzes so adjusted as to burst the shell on the first graze. This is one of those rules which it is so easy to preach and so hard to practice, and I have heard some of our best officers say that they had no confidence in such a fire, because it demands a delicacy of fire almost unattainable.

The Prussians made good practice against troops with common shell in 1870; but they used percussion, not time fuzes.[3]

The difference between segment shell and shrapnel is so fine as in no way to compensate for the complication to which the supply of both descriptions of ammunition to a battery gives rise; and there can be no doubt that either kind should be withdrawn, and the proper number of projectiles made up by a corresponding increase of the other. Segment or shrapnel may be used with time fuzes against skirmishers, or with time or percussion fuzes against troops in line or column. They may be used with time fuzes against artillery, if it be desired to kill the gunners, drivers, and horses; or with percussion fuzes, or blind, if the intention be to smash the carriages.[4]

The extreme useful range of canister from rifled guns is about 350 yds. Its use, therefore, has become rare and exceptional; for if the campaigns of 1866 and 1870 teach anything, they teach us that a battery is in danger when the enemy's infantry has arrived within

---

[1] "Das Oesterreichische Feld-und Gebirgs-Artillerie." Wien, 1868, p. 114. "Studie über die Taktik der Artillerie bei der neuen Infanterie-Bewaffnung." Wien, 1868, pp. 26, 27. I believe I have not misrepresented Captain Müller's principles. The apparent contradiction between his statements and mine arises principally from the fact that he looks at the question as one of grand tactics, while I look at it as one of minor tactics.

[2] I merely lay down general principles on this subject. It would be unpardonable impudence to lay down definite rules on a question which must be practically decided almost entirely by the peculiar circumstances of each individual case.

[3] The use of percussion fuzes depends, of course, to a great extent on the nature of the ground on which the enemy stands; for if the ground to his immediate front be marshy, or even soft, shells with percussion fuzes will do him but little damage.

[4] See Capt. C. O. Browne's remarks on shells and fuzes in the "Proceedings of the R.A. Institution," Vol. VII. p. 29 et seq. When possible, percussion fuzes should be invariably used with segment shell, and time fuzes with shrapnel.

900 yds. from it, and that it is *in extremis* when the enemy's infantry is 350 yds. from it.[1] An Austrian rifled battery which galloped up to case range from the Prussian infantry at Sadowa, suffered such terrible losses that not a single shot was fired from it;[2] and a Prussian field battery which unlimbered at 600 yds. from the French infantry at Gravelotte, for the purpose of firing case, had so many men and horses struck down that only two guns could be got into action, and these guns were withdrawn as soon as practicable.[3] Each subdivision of our field batteries is at present supplied with 16 rounds of case—a much too large proportion in the present state of tactics. Six rounds, three in each axle-tree box, would be amply sufficient, and room would thus be gained in the limber boxes and wagon-body for twelve additional rounds of segment or shrapnel; either of which are infinitely more useful than case.[4]

By depriving it of its most destructive projectile, canister, rifled small-arms have inflicted a heavy blow upon the field artillery. But the evil is not an irreparable one, for the mitrailleur is capable of delivering a fire of case far more extended and deadlier than anything before known in the artillery service. By adding two mitrailleurs to our present 6-gun batteries, or by equipping one of the divisions of our batteries with mitrailleurs instead of guns, our field artillery would be enabled to deliver a destructive fire of case up to 1500 yds.[5] A certain number of mitrailleurs should also be equipped on the horse artillery system, to act as batteries of reserve.

To distribute mitrailleurs among the infantry as battalion guns would be to revive a system which for a century and a half, from the Thirty Years' War to the close of the 18th century, exerted a most pernicious influence on the progress of field artillery.[6] As the innumerable evils entailed by the battalion guns are so well known that it would be waste of words to re-state them, it seems incredible that a return to this system should be advocated at the present day by professional military men in Prussia, Austria, and England.[7] Yet such is the case—a further proof that "in this age the quiet surface of routine is as often ruffled by attempts to resuscitate past evils, as to introduce new benefits."[8] Unless mitrailleurs are recognised to be what they really are, powerful, although complicated pieces of artillery, and organised as such, the

---

1 "Ideen über die Verwendung der Feld-Artillerie." By the Prince of Hohenlohe-Ingelfingen. Berlin, 1869, p. 5.

2 General Soudain de Niederwerth, in the "Journal de l'armée Belge," No. 213.

3 "Observations amongst German Armies during 1870." By Col. H. A. Smyth, R.A., in the "Proceedings of the R.A. Institution," Vol. VII. p. 196.

4 "The Prussians carry ten rounds of case per gun, of which, however, they have no opinion." Col. H. A. Smyth's "Observations, &c.," p. 201.

5 "Machine Guns," by R. J. Gatling, in the "Journal of the Royal United Service Institution." Vol. XIV. p. 520.

6 See "Proceedings of the R.A. Institution," Vol. VII. p. 130 et seq.

7 "Mitrailleurs, and their place in the Wars of the Future," by Major Fosberry, V.C., in the "Journal of the Royal United Service Institution," Vol. XIII. p. 560. "Proceedings of the R.A. Institution," Vol. VII. p. 201. "Das Jahr 1870, und die Wehrkraft der Monarchie," Vienna, 1870, p. 27—said to be written by the Archduke Albrecht of Austria.

8 Mr. J. S. Mill's "Essay on Liberty," p. 18.

advantages that arise from their invention will be almost neutralised by the ills their defective organisation will give rise to.

Rockets have never been largely used in the field since their invention, and it cannot be said that their success, on the whole, has warranted a more extensive use of them; for, like the elephants of the ancients, they are occasionally as dangerous to friend as to foe.

English rockets were successfully used at the battle of Leipsig, at the passage of the Adour in 1814,[1] and at the battle of Toulouse;[2] and the failure of Capt. Mercer's rockets during the retreat on Waterloo[3] was amply atoned by the success of Major Whinyates' rockets, under Serjeant Dunnett, at Waterloo.[4] They were used, with effect occasionally, during the Italian war of 1848–49,[5] and the Hungarian campaign of the same date;[6] and our troops suffered much annoyance at the siege of Delhi from English rockets discharged from the city by the natives. The Austrians used them at Solferino, without effect according to the French account;[7] but they seem to be falling gradually into disuse, and little is to be heard of them in the campaigns of 1866 and 1870. They may be used against infantry, but are especially useful against mounted troops, as they terrify horses and throw them into great disorder.

5. *When to move.*

I have laid it down that 2500 yds. is the extreme useful range of our field guns under ordinary circumstances. In case, therefore, the enemy be falling back, it will be necessary to limber-up and advance when the enemy's line has reached that distance from the guns. On the other hand, if the enemy be advancing, it should be laid down as a rule, to which there is only one exception, that the battery should limber and retire when the enemy's infantry has arrived at a distance of 900 yds. from the guns; for at that range the fire of infantry becomes effective, and the campaigns of 1866 and 1870 have proved beyond question that artillery cannot live under infantry fire.[8] The enemy's infantry may be looked on as an ironbound coast, bordered by a belt of deadly rocks that stretch out 900 yds. from the shore; and to attempt to navigate within that fatal line is to court certain destruction.

The exception I have alluded to is the case of guns occupying a

---

[1] Napier's "Peninsular War," Vol. VI. p. 91.

[2] Ibid. Vol. VI. p. 644.

[3] Mercer's "Diary of the Waterloo Campaign," Vol. I. p. 279.

[4] Siborne's "Hist. of the Waterloo Campaign," Vol. II. p. 105.

[5] "Military Events in Italy." Translated by Lord Ellesmere, p. 108.

[6] "Memoirs of the War in Hungary," by the Baroness von Beck, Vol. I. p. 150. "Histoire de Hongrie," par Balleydier, pp. 52, 54, 94.

[7] A French staff officer, describing the effect of the rockets, says:—"Nous avons été exposés au feu d'une batterie de fusées, qui nous a couvert de ses saletes."

[8] I do not lay down dogmatically that 900 yds., to an inch, is the exact effective range of infantry at the present time. I am obliged to select some definite distance, and I select 900 yds. approximately, as being in all probability the minimum distance at which artillery should fight infantry.

position which the general has determined to hold to the last. In this case, let the distance of the enemy be what it may, the gunners must stand by their guns, and, if so be, die by them.

6. *How to move.*

In dealing with the movements of field artillery, three questions must be settled: first, the pace; secondly, the number; and thirdly, the direction of the movements that should be made. The third question belongs rather to grand than to minor tactics, and is a function of three variables—the position and spirit of our own troops, the nature of the ground, and the position and spirit of the enemy's troops. With it I have but little to do. It is a problem which lies beyond the sphere of artillery commanders, and must be dealt with by the generals of our own force. Were artillery officers ever called upon to take command of brigades and divisions in the English army, it might be interesting to touch briefly on this subject; but under existing circumstances it would be a waste of time and thought to discuss a question in theory which we shall never be permitted to solve in practice.

The axiom that guns are useless when limbered-up, underlies the whole theory of the movements of field artillery, as far as their rapidity and number are concerned.

From this axiom it follows, in the first place, that all the movements of a battery ought to be executed at as rapid a pace as the nature of its equipment will permit; for the slower the pace of manœuvre the longer the guns will remain limbered-up. It is therefore evident that the French and English field batteries fail to fulfil one of the primary conditions of a good field artillery. In both systems the guns are capable of moving at a brisk trot; in neither system would a trot be practicable in actual warfare. For in the present state of tactics, as everybody knows, artillery wagons dare not accompany their guns under fire; and if the wagons do not accompany the guns, the gunners must be dismounted, and it is a physical impossibility for men on foot to keep pace with horses moving at a trot. There is no alternative, therefore, between bringing field battery guns into action at a walk, and bringing them into action without their gunners. If a walk be a sufficiently rapid pace for field batteries to move at, then 12-prs. should be at once withdrawn, and 40-prs., or some such gun, should be given to them. On the other hand, if 12-prs. are indeed the fit guns for this branch of the field artillery service, then let the gun-carriage be fitted with seats for the conveyance of the gunners, so as to confer upon the system the mobility which 12-prs. are capable of attaining. This is not a question which is now raised for the first time, nor is it one which involves either experiment or expense. We have only to cast our eyes around us and imitate the Prussian, the Austrian, the Swedish, the Belgian, or the Italian system, or to reproduce that used for half a century by the Bengal Artillery. We have, indeed, to look no further than our own volunteer artillery, among whose carriages the latest continental improvements may be found.[1]

---

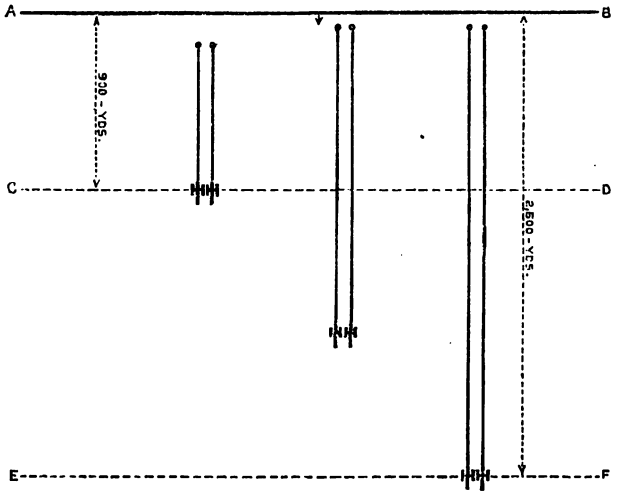
[1] I refer to the 1st Middlesex Artillery Volunteers.

Until a step be taken in either one direction or the other, our field batteries, with the French, will remain, as far as mobility is concerned, the most inefficient field batteries in Europe.

From the axiom that guns are useless when limbered-up, it follows, in the second place, that the movements of a battery should be minimum in number;[1] for in order to move, the guns must cease firing and limber-up. If an advancing enemy reaches 900 yds. from the battery, it should at once limber-up and retire, unless it be necessary to hold to the last the position which it occupies; and if a retiring enemy reaches a position much beyond 2000 yds. from the guns, they must be rapidly advanced to within 900 yds. of the enemy's line; but within these limits it is undoubted that the calmer, the steadier, and the less interrupted the fire of the guns is the better.

At the present day, the old principle that guns must move whenever the brigade of infantry or cavalry to which they are attached moves, is still in full action in the English army. Field guns must be aligned on the infantry, must move when they move, and must fire when they fire; or to use the ordinary phrase, they must "conform to the movements of the infantry." This mode of handling guns is utterly

Fig. 10.



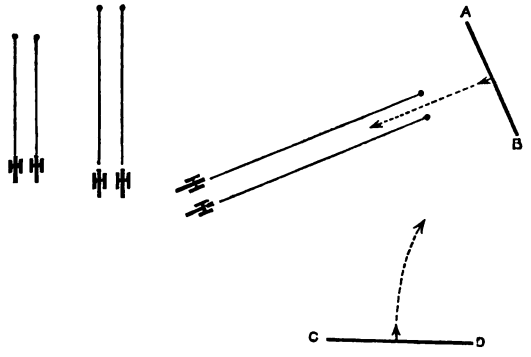
and diametrically contrary to the whole spirit of modern tactics; for

[1] Baron von Moltke lays down this principle with admirable clearness:—"Rifled guns are not in themselves wanting in mobility, but their peculiarities require that they should keep a position as long as possible when once they have taken it up; for every change of position demands a fresh calculation of the ranges, on the accurate knowledge of which the result chiefly depends. On account of their extensive range, it is possible for properly placed rifled guns to be effective from one and the same position in all the different stages of a battle. It is not necessary to advance a few hundred yards in order to reach the enemy, for this object is gained by altering the elevation, without essentially diminishing the efficacy of the fire."—"Beilage zu Nr. 27 des Militair-Wochenblattes, für den 8 Juli, 1865." Translated into English by Lieut. H. R. G. Craufurd, R.A.

nothing can be more certain, if my facts be indeed facts and if my reasoning be correct, than that the action of modern field artillery ceases just where the action of infantry begins. For example, if *AB* represent the enemy's infantry, in Fig. 10, then our artillery would, as a general rule, open fire at *EF*, and would gradually advance to *CD*, beyond which line it could not advance, without the risk of annihilation, as long as the enemy's infantry stands firm.[1] On the other hand, *CD* is the extreme position at which infantry could commence firing upon *AB*, without risk of wasting their ammunition. It is therefore clearly evident that if our infantry and artillery are to fight with effect they cannot fight in line, and that, although co-operating to effect the same end, they must for the future act far more independently than in the past.

The independent action of artillery, necessitated by the introduction of arms of precision, makes it the more important that guns should be accompanied on all occasions by strong and well-instructed escorts. The duty of an escort, be it cavalry or infantry, is a simple one—to protect the battery from sudden attacks on its vulnerable parts, its flanks and rear. With the front of the battery it has nothing whatever to do. Yet at the present day, it is not unusual to see the escort in the intervals between the guns, impeding and obstructing the movements of the officers and gunners, occasionally putting a stop to the fire altogether by getting in front of the muzzles,[2] and, worse than all, absent from the positions where its presence is really required—the flanks and rear of the battery. Far from being in the battery, the escort should be well in its rear, and well to a flank, as in *CD* (Fig. 11).

Fig. 11.



It should be well to the rear, in order to be able to take in flank any

[1] The Prince of Hohenlohe-Ingelfingen's "Ideen über die Verwendung der Feld-Artillerie," p. 5 et seq. "L'Artillerie de campagne Belge," par Capt. Nicaise. Bruxelles, 1870, pp. 40, 41.

[2] This happened to the horse artillery at the battle of Vittoria. See Frazer's "Letters during the Peninsular and Waterloo Campaigns," p. 160.

body of the enemy, such as *AB*, which endeavours to outflank the guns; and well to the flank, in order to watch and give notice of any attempt on the part of the enemy to creep round the flank of the battery and attack it in rear.[1]

A cavalry escort should lose no time in charging an enemy who attacks the flanks or rear of the battery, but it should never pursue. If the gunners are annoyed by sharpshooters, the escort, of whatever arm, should endeavour to drive them off, or at least to occupy their attention. In case the enemy attacks the battery in front, the escort should form in line immediately in rear of the limbers, and there await the result of the attack. If it be successful, the escort will rush in to protect the defenceless gunners and save the guns.[2] If it be unsuccessful, the escort will resume its former position. It is almost needless to say that in posting an escort every advantage should be taken of the accidents of the ground.

If it be necessary to subdivide a 6-gun battery, it should be broken into divisions,[3] not half batteries; for the half battery formation violates every principle on which the formation of a 6-gun battery is founded. In 4-gun, and 8-gun batteries, half batteries are, on the contrary, convenient and useful.

On the formation of guns when manœuvring it is not necessary to say much. The nature of the ground will occasionally necessitate the use of column, but as a general rule, line at full intervals is the best of all orders.[4]

What I have endeavoured to prove in the foregoing pages may be summed up in a few words.

As regards the mobility of field artillery, its movements in action, although made at the maximum speed which its equipment renders possible, ought to be minimum in number, and executed beyond the effective range of the enemy's infantry.

As regards the fire of the guns, field artillerymen require time to choose their position; they require time to determine their object; they require time to select their ammunition; they require time to find their range; they require time to load their guns; and they require time to lay their guns. They require time to do these things; and unless time be given to do them, it is vain to hope that, in our next war, our batteries will gain that superiority over those they will encounter which, from the excellence of our *matériel* and the stubborn courage of our gunners, we might reasonably expect.

---

[1] Giustiniani's "Essai sur la Tactique," pp. 80, 206. The directions given in Robins' "Cavalry Catechism" for the position of an escort are absurd, and it is unsatisfactory to find them quoted with approval in Sir Sidney Cotton's "Field Exercises of the Peshawur Brigade," p. 104.

[2] An excellent example of this principle is afforded by the conduct of the cavalry escort (15th Hussars) of the guns attacked in the action fought on the 2nd Dec. 1799 in Holland. See the "British Military Library," Vol. II.

[3] "Les deux canons d'une même section" (division) "sont des camarades de combat qu'on ne doit jamais séparer."—"Instruction du Général Le Bœuf pour le camp de Châlons."

[4] The reason is explained by the Prince of Hohenlohe-Ingelfingen in his pamphlet before quoted, p. 42.

Such is a brief outline of the minor tactics of modern field artillery. If the principles I have laid down be untrue, let their falseness be exposed; if they are true, let them be practically adopted, or let us take for our motto—

" . . . . . video meliora proboque,
Deteriora sequor. . . . . "

A FEW NOTES ON THE

HANDLING OF HORSE ARTILLERY & CAVALRY.

BY

CAPTAIN I. KETCHEN, R.H.A.

I FEEL strongly that a great many officers already know all that is contained in the following sentences, and that it seems presumptuous in me to ask a place for them in the Institution papers; but they are not meant for such officers, but for the few who, although I feel sure they will assent to what I have written, have not thought much on the matter before.

Simple although the ideas are, they certainly are not generally acted upon; in fact I have never yet seen them acted upon at any brigade parade I have taken part in. For these reasons, possibly some few may think them worth reading.

Except when preparing for an attack, horse artillery and cavalry should never be *in motion* in the same line.

By "preparing" is meant, advancing in good open country together to meet an enemy, but at such a distance from him as would be beyond the proper limit for commencing actual fighting.

In advancing to attack, the horse artillery should do so as soon as the order is given, and, if the ground admits, at full gallop. (By "full gallop" here and throughout this paper is meant, as fast as the nature of the ground will allow with safety.) The cavalry escort should move off at the same time, and follow on the outer flank at a trot, but never remain quite so far away from the guns as the enemy is from them; so that should the guns be suddenly charged by the enemy, the escort may intercept and at least check him.

By the time the guns have come into action, or very soon after, the escort will have arrived at its proper position (on the outer rear of the guns), men and horses perfectly fresh and fit for work if really required.

When the horse artillery have advanced about one-third of the distance between the cavalry and the enemy, the cavalry should *then* move off at a trot, watching the guns, and should on no account go past them (in fact, keep out of the enemy's fire as long as possible) until the guns are actually in danger by the rapid advance of the enemy, or the latter thoroughly thrown into confusion. In either case it will be the duty of the commander of the cavalry to decide *when* he should pass the guns and charge the enemy; and the officer commanding the horse artillery should always be held to be intelligent enough to know that when the cavalry advance so far as to be in danger

from the fire of the guns—but not one second before then—firing must cease.

The horse artillery horses may become regularly blown by their rapid advance, and although while galloping to the front the guns were perfectly useless, yet now, standing still in action, they are doing their work in their proper place, and the horses are being rested; *i.e.*, horse artillery when in motion are of no use against an enemy, they are of use only when "standing still." The longer they are kept standing still, the greater the number of rounds that can be fired, of course, and the longer the breathing time for the horses. Hence, position should be changed as seldom as possible; but when necessary, it should be done at full gallop, for until the change is *completed* the guns are quite useless—until, in fact, they are "standing still" again.

It is therefore quite clear that the gallop, when practicable, is the *only* horse artillery (proper) pace during an engagement.

On the other hand, with the cavalry nearly the opposite holds good.

If the cavalry are working with horse artillery, they should endeavour to obtain from the guns as much work as possible; and the more damage the guns are allowed to perpetrate on the enemy, the more successful is the cavalry charge afterwards likely to be. The guns, therefore, should be permitted to go ahead to do their work; and while this is going on, the cavalry commander, saving his men and horses, should come up at the *very* slowest safe pace. By galloping now, he would only "wind" both men and horses, and if he passed the guns (and how very often this is done), they would, for his safety, have to cease firing before they had (possibly) given the enemy one round; and further, his men and horses would be "done" at the very moment when they should be at their best.

In actual warfare, as a rule, except in the charge over about the last 100 yds., and the canter for about the previous 50, cavalry should never go beyond a trot.

A sort of rivalry now exists, most pernicious, as to which goes the faster. This would be thoroughly put an end to if the absurdity of horse artillery and cavalry advancing together were stopped, and the following rules borne in mind:—

At the time of actual conflict with the enemy, cavalry should be at full gallop.

At the time of actual conflict with the enemy, horse artillery should be standing still.

In advancing to the attack, cavalry should not go faster than a trot (so that men and horses may be fresh for the "clash.")

In advancing to the attack, horse artillery should go at full gallop (so as to get into "standing still," and therefore use, as soon as possible; for the sooner in action, the greater the number of rounds the guns can fire before the cavalry pass).

Were these points attended to, there could be no rivalry. The one would then see that a distinct part has to be played by the other, and that both combined make a splendid whole; and were this feeling once secured, it would more than ever be the object of the officers of

the one branch to try to become acquainted with the details of the other, with the ultimate view of being able to act at the proper moment and in such a manner as to obtain the greatest possible advantage by the correct combination of the powers of the two arms.

To return, then, to the subject.

The guns should remain unlimbered after the cavalry have passed on to the charge, so as to be ready to open fire, should a favourable opportunity offer, in the case of their being beaten back. As soon, however, as it is seen that the cavalry have got the best of the affair, the horse artillery should limber up and advance to the front, so as to give the retreating enemy a few farewell shots on the cavalry desisting from further work.

Then in retreating, a brigade of horse artillery and cavalry should be worked on the same principles.

On the order being given to retire, the guns of that part of the brigade which is to go back first should do so—about 200 yds.—at full gallop (an exception must be made in favour of the horse artillery to the general rule that all retirements should be done at a walk, or at most at a trot), so as to bring the guns into use again as soon as possible; but the cavalry of this retiring part of the brigade should go back at a walk, and the guns in front should not cease firing until the retiring cavalry have fronted in line with their own guns.

It is now usual for the guns in front to cease firing as soon as the retired guns have opened fire, but this should not be done. The retirement, as a whole, should be accomplished slowly—that is, at a walk by the cavalry; but by allowing the horse artillery to gallop back, it is evident that a great deal more effect is gained than by the usual way of making them walk back in line with the cavalry; for during the whole retirement every gun is actually in action, except for the few minutes taken up in the 400-yard gallops (200 to the already retired guns and 200 beyond them), whereas, as a rule, at present only one gun out of every two is actually in use during the whole time taken up in walking to the rear.

The slow retirement of the cavalry next the enemy is well covered the whole time by the first retired guns, and *nearly* the whole time by its own guns as well. The cavalry should not get the order to go about until the horse artillery with which it is associated has actually moved off to the rear. As a rule now, the cavalry commander forgets that after the order to retire is given, the horse artillery have to discharge their guns, sponge them out, limber up, and mount their horses before they can start; and very frequently he goes off leaving the guns behind him, instead of seeing them clear off before he moves.

By this method of retiring, should an opportunity offer for the cavalry to charge, their men and horses are quite fresh and fit for such work at any moment; and the horse artillery horses have abundance of breathing time while standing still between the successive gallops to the rear.

The reason for the horse artillery being made to gallop to the rear should not only be known to the horse artillery themselves, but published to the army; so that, should retreat ever become necessary, no panic would be occasioned by the now unusual sight of a portion of an army going back at a dashing pace.

The same arguments apply to all changes of front in the face of an enemy, except to meet a sudden and unexpected flank attack; in which case it will be necessary for the cavalry to get into their new *direction* at a gallop. As soon as that is gained, however, the guns should be allowed to do all they can before the cavalry pass them; in fact, all the foregoing then again comes into full force.

To sum up. During an engagement, horse artillery and cavalry should never be in motion in the same line; *the* pace for horse artillery is the gallop; cavalry should rarely (except when charging) go beyond a trot.

What I have written in no way refers to the conduct of the drilling of either the horse artillery or cavalry. Of course, the horse artillery must in great part be taught and exercised at a walk and trot, as the best of all means leading to safe galloping; and the cavalry, too, must very frequently be manœuvred at a gallop, to ensure their being able to do so on an emergency.

I may add that the horse artillery should expect great assistance from good Rifle skirmishers. They are generally to be found in the front, and when the horse artillery come up the protection that might be afforded by such men would be immense; for the enemy's sharpshooters have always been a thorn in the side of the horse artillery, whereas, if we could only keep down their fire by our own skirmishers, many a shot that now has at least the chance of disabling one of our teams could never be fired at all. I cannot, however, pretend to any knowledge of the *manner* in which this protection may be best afforded; that may safely be left in the hands of our Rifle officers.

Authorised Translation.

5

THE

SYSTEM OF ATTACK

OF THE

PRUSSIAN INFANTRY

IN THE

CAMPAIGN OF 1870-71.

BY

LIEUT. FIELD-MARSHAL

WILLIAM, DUKE OF WÜRTTEMBERG.

Translated from the German by

C. W. ROBINSON,

CAPTAIN RIFLE BRIGADE, GARRISON INSTRUCTOR, ALDERSHOT.

LONDON:

W. MITCHELL & CO., MILITARY PUBLISHERS,

39, CHARING CROSS.

1871.

TRANSLATOR'S PREFACE.

THE following important remarks upon the system of attack of the Prussian Infantry were first delivered in the form of a lecture to some officers at Prague, and were subsequently published in the journal of the Vienna Military Scientific Society. They are now translated by permission. It will be seen that the Author, whose experience, and position, give authority to his statements, asserts that the Prussians did not, as is generally supposed, conduct their attacks up to the close of the late war in columns, but that after the battle of Gravelotte they employed extended skirmishing lines.

"The attack in line of columns" (it is stated) "was marked out as an impossibility and defi-"nitively rejected." "The attack in open order, "joined to the attack of skirmishers, was adopted "as the only efficacious one; and it was strictly "forbidden to lead close bodies of troops within "a nearer distance of the enemy's fire than 2,000 "paces."

ing for causes, led to an abuse of this excellent weapon, which proved in the highest degree destructive to the French forces.

Since the battle of Mentana, where the performances of the chassepot were for the first time put to the proof, the belief in the invincibility of a rifle which could throw from 7 to 8 projectiles per minute to a distance of 2,000 paces, had taken fast hold of the French Army.

To overwhelm hostile columns at a distance of 1,000 metres with projectiles, and thus to render it impossible for them to approach an occupied position within effective firing distance, was propounded as an axiom by French tacticians, with the full assent of the Army.

In order to attain this long range, it becomes necessary to aim over the highest point of the back sight, which entails a downward pressure of the stock of the rifle.

Everybody knows how difficult it is to take aim in this way; but no one will maintain that the Frenchman finds any pleasure in giving himself trouble.

Frivolity and established custom, together with the remembrance by the older soldiers of the former method of firing from the hip without any calculation, led very rapidly to the habit (or rather bad habit) of holding the rifle in the left hand at an angle of nearly 45°, with the stock downwards; pushing in cartridge after cartridge rapidly with the right; and, without aiming, firing away in the probable

direction of the enemy. The term of "Moulin à café" (the coffee-mill) was invented for this mode of firing.

Although one cannot assume that the disadvantages of this senseless expenditure of ammunition could remain concealed, still the bad habit was adhered to throughout the entire campaign.

Countless proofs corroborate the assertion of Prussian officers and soldiers, that the French, especially during the latter part of the war, fired exclusively in this manner. Standing behind high unloopholed walls, or entirely concealed in rifle-pits or behind earthworks or hedges, they discharged an incredible shower of projectiles against the enemy,—pure chance shots, which, as a rule, struck the ground at a distance of from 1,200 to 1,800 paces from the standing or sitting point of the firer, and covered a whole tract of ground with lead. The enormous number of cartridges which are found everywhere in the places where the French firing bodies discharged their rifles; the great quantity of projectiles found at distances of from 1,200 to 1,800 paces from these places; (whereas at closer distances they are far more sparingly scattered about); and lastly, the bullet marks on trees and houses, which indicate clearly the final curve of the trajectory, leave no doubt regarding the character of the French fire.

It had the advantage of ease and safety, and was destructive, if by chance a body of troops came within reach of the shower of bullets, but it

plainly tempted the enemy towards the nearer and less dangerous zone from whence he could commence effective fire with his own inferior weapon; and (by reason of the extravagant waste of ammunition) it very soon left the marksman defenceless.

Proceeding upon the true principle, that the Defensive—even if positions be well chosen and scientifically strengthened — (in which art the French have everywhere and on every occasion evinced their skill) must remain without result, and soon lose its force, if it is not connected at the right moment with the Offensive, the French never omitted to follow out this principle; but here also that superficiality and lack of reflection which is clearly inherent in the character of the Latin people again showed itself. They continued to act according to regulation, or to this or that order, without inquiring into why the attempted offensive efforts remained continually unsuccessful.

The direct offensive blow was alone and exclusively resorted to on the part of the Defence. With daring courage, great activity, and unparalleled élan, densely massed groups, starting from behind their cover, threw themselves upon the enemy—interfering by their forward rush with their own riflemen,—and soon came under the "schnell fire" or volleys of the standing or halted infantry; they were then forced, with fearful loss, to retire again behind their cover.

Flanking movements—offensive efforts of small

bodies by fits and starts, which, under the protection of fire delivered from good cover, gradually rally and accumulate, in order to attempt the assault in the closest vicinity—were manœuvres which were extremely seldom resorted to by the French.

I have dwelt so long upon these two points, because I think I see in them the principal causes of the French defeats. The masterly strategical operations, the admitted superiority of the Prussian Artillery, the extraordinary reconnoitring performances of the Cavalry, would not have produced the results which they did in this campaign if the French Infantry had fired better and possessed more manœuvring power.

I now turn to the Prussian Offensive.

The formation prescribed in the regulations for an Offensive advance is that of Half Battalions, that is to say, two companies of each battalion move forward, with their skirmishing divisions extended, and, as far as they are able, carry on the fight unassisted, while two companies follow them as a reserve or support.

This method of fighting could not be adhered to against the far-reaching chassepot, because the reserve, in consequence of the French method of firing just described, suffered more than the troops actually engaged. It is, however, a proof both of the courage of the men, and the penetration of their leaders, that the enormous losses to which the bodies in close formation were exposed in their

earliest collision with the enemy did not cause any retrograde movement; but that, in consequence of the supporting companies seeking shelter from the murderous fire by advancing forwards, the formation of Line of Columns grew out of that of Half Battalions. The excellent training of the Prussian Riflemen, and their independent action connected with the self-reliant, skilful conduct of the companies by their commanders, produced, even on the first engagement with the enemy, very brilliant results.

The storming of the Geisberg at Weissenburg succeeded in consequence of a right and thorough use being made of the shelter which was offered by the gentle terrace-shaped ascent of the Geisberg, covered with unmown fields, though it was undoubtedly rendered materially easier by superiority of force (the flank attack of the 11th Corps), and by the previous preparatory action of Artillery. The attack consisted of a continuous forward rallying by small extended bodies, behind the frequent but insignificant shelter presented by the folds of the ground or by dead angles; of advances, by fits and starts, of troops in extended order close to those which had collected together again; and assumed, admittedly, at last—as these closed in from all sides towards the summit of the hill, which was now but weakly occupied—the character of a general assault.

Of a similar character was the advance at Wörth. Without entering into the details of this

battle, I must observe that Wörth was more of a chance-fight, and was begun by the Commanders of Corps without orders from the Commander of the Army. The intention of the Crown Prince appears to have been to attack the enemy first at 7 o'clock.

MacMahon's position was by no means a bad one, although the ground on the left bank of the Sulzbach between Gersdorf and Gunstett must be termed stronger.

The true keys of it were Wörth and the Nieder-Wald, which last stretches from Elsasshausen as far as the high road opposite Spachbach. It was comparatively easy for the Prussian skirmishers to penetrate at both points, because they were only exposed for short distances on open ground to the French fire. From the moment of penetrating, the chances on both sides became even, because the assailants, as well as the defenders, being sheltered by cover, were, on the other hand, impeded in their fire.

The more skilful employment of cover displayed by the Prusso-German Infantry--and, no less than this, the superior effect of their Artillery--decided the matter in this instance in favour of the assailants.

As at Weissenburg the fight finally resulted in a general forward rush, but only after the strength of the enemy had been completely broken. The Offensive movement, which Conseil Dumesnil's Division attempted against the left flank of the

Prussians (the 11th Corps) at Gunstett, was by no means justified. It was neither demanded by strategical nor local tactical circumstances, and its failure contributed greatly towards the defeat of MacMahon's Army.

From the battle of Gravelotte I have only to select one episode, and that, the storming of St. Privat; but it may, nevertheless, be of interest if I give at this point a brief description of the battle-field.

The battle field of the 18th August, is one of the strongest and best positions that can be imagined. A gradual ascent of arable land with a few gentle undulations—one of which, immediately in rear of the principal part of the position, forms a dip, the eastern edge of which commands the west, thus constituting a second position — is bounded on the east by the steep fall of the plateau. Behind this Reserves could move under cover, though not with very great freedom. In front of the right flank, that is in front of Roncourt and St. Privat, the ground is entirely open. In front of Amanvillers, nearly two kilometres in advance of the chief part of the position, lies the Bois de la Cusse, a very hollow wood. In front of the entire left wing the ground is depressed, and finally culminates in a ravine, across which the road cutting is carried which constitutes the defile of Gravelotte. On the north side this ravine was filled up by the Bois de Genivaux; and it cannot be denied that this wood and ravine afford cover

by which an assailant can draw near, and are, therefore, a disadvantage to the Defence. As, however, the principal part of the position is everywhere at a distance of from 1,200 to 1,800 paces from the edge of the ravine, and the ravine itself is very difficult to pass further down, the disadvantages and advantages are balanced. The position does not offer any actual resting point for the flanks, but still the left flank is supported by the ravine, the debouché of which opens within range of the forts at Metz, whilst the right flank was far removed from the direction of the enemy's line of advance.

The occupied portion of the position was twelve kilometres in length. The French had only weakly lined the outlying ground, and had not cut down the woods into abattis for which the latter were little adapted.

The main position was furnished here and there with rifle pits; but it is an exaggeration to speak of cover erected in successive tiers one above the other. At St. Privat, certainly, the garden walls lay one behind the other, but the defenders of the front walls would have been hit from those in rear, which were of about equal height. Moreover, the villages and buildings throughout the position afforded no especially good shelter. Amanvillers lies almost out of sight in a dip in the ground. Roncourt and St. Privat numbered but few houses; Montigny la Grange, la Folie, Moscou, St. Hubert, and Point du Jour are isolated houses, called in the country "fermes."

From the numerous accounts of this battle, it is well known that the Prussian right (1st Army) had already become involved in a serious fight at Gravelotte, while the left wing (2nd Army) was continuing its forward movement Northward by successive corps, which wheeled into line of battle one after the other. The Garde, as well as the 12th Saxon Corps which was marching on the extreme left flank, encountered at St. Marie aux Chênes a very determined opposition, and after this was overcome, the 12th Corps advanced further towards the north, whilst the Garde wheeled to the right, deploying between Habonville and St. Marie aux Chênes, opposite St. Privat.

During the action at St. Marie aux Chenês, Prince Hohenlohe, commanding the Artillery of the Garde, had collected 84 guns opposite St. Privat, and cannonaded the French position there with great effect—at first at a distance of two kilometres (2,640 paces), and afterwards at 2,000 paces. About five o'clock in the afternoon the Commander of the Garde considered the enemy to be sufficiently shaken for him to risk an assault across the open and gently ascending ground.

The 4th Brigade of the Garde (Kessel) first moved forward from Habonville in the direction of St. Privat in Line of Columns in two lines, with skirmishers thrown out in front; and a quarter of an hour later the advance of the 1st Division of the Garde (Pape) commenced in the same forma-

tion from St. Marie aux Chênes. St. Marie is about two kilometres distant from the main French position, Habonville about three; therefore the three brigades came about the same time within reach of the effective fire of the enemy. The front of attack included little more than 2,000 paces, so that there were about 10 men to the pace; this was however the closest formation of attack employed by the Prussians in this campaign. The effect of the enemy's fire, even at a distance of more than 1,500 paces, was so murderous, that, according to the accounts received, nearly 6,000 men fell in 10 minutes, and the advance had to be immediately discontinued.

That so terrible an effect of the enemy's fire, joined to a momentary failure, did not cause a loss of order among the troops; that these troops always remained in the hand of their leaders and in fighting readiness; that it was possible an hour and a quarter later (when the Saxons had carried out their advance as far as the heights of Roncourt and were now ready to turn the enemy's right flank) to renew the attack successfully, in conjunction with the 9th Corps, which was on the Garde's right, bears most brilliant witness to the bravery and discipline which is inherent in the Prussian Garde Corps. Not less worthy of note is the sudden resolve of the Commander of the Garde to break off the attack which had already commenced at the right moment, thus saving his corps from inevitable destruction.

The attack in Line of Columns over open ground was, in spite of the final success of this one, *marked out as an impossibility and a useless loss of men, and definitively rejected.*

What the other form of attack was which was adopted instead of it, and put in practice successfully by the Garde Corps itself, I will illustrate by the example of the combat of Le Bourget, but, before doing so, must say something regarding the Prussian mode of attack in general.

The predilection of the Prussians for the concentric form of attack is well known, and the results obtained by their skilful execution of it justify this. Even out of a parallel advance, a concentric attack usually resulted, because the Prusso-German troops always march with a very broad front, more than a division of the army being seldom placed upon one road, and because the ordinary form of their Offensive, carried out under all circumstances, framed itself as follows:—

As soon as the advanced guard struck upon the enemy it laid hold of him and entered upon an earnest struggle of some duration. The Artillery was immediately pushed forward in as great strength as possible, and played on the enemy's front from the nearest positions, often at from 1,400 to 1,600 paces; while the Infantry was at once directed against one flank of the position (or, if the position was very contracted, against both flanks) in order to surround it. Only a pro-

portionately small force of the Infantry was held back as a reserve. All troops coming up afterwards were either, as they approached, directed against the flank (or both flanks) or pushed behind the fighting troops towards the flanks, on which occasions a relief of the reserve was sometimes effected.

Only one instance can be pointed to in the whole campaign (the 2nd Corps at Metz, on the 18th August) where one corps passed through another to the attack. At the outside, single battalions or regiments were employed for the purpose of filling up gaps which had ensued through the side-ward march of troops towards the enemy's flanks.

As in the Defensive, so in the Offensive, the front assumed by the Prusso-German troops was unusually long; the advancing line, on that account, very thin; the reserve (as already mentioned) by no means strong.

The Cavalry was usually held in reserve during an attack. Isolated instances are on record where, by a charge, it contributed to render the deployment of Batteries and the retreat of Infantry possible; but, these excepted, its rôle during an attack was usually a passive one.

Where the Cavalry celebrated its triumphs was not upon the field of battle, but in the minor operations of war.

The division of Prussian Corps and Divisions into two parts, together with the two principal

The attack in Line of Columns over open ground was, in spite of the final success of this one, *marked out as an impossibility and a useless loss of men, and definitively rejected.*

What the other form of attack was which was adopted instead of it, and put in practice successfully by the Garde Corps itself, I will illustrate by the example of the combat of Le Bourget, but, before doing so, must say something regarding the Prussian mode of attack in general.

The predilection of the Prussians for the concentric form of attack is well known, and the results obtained by their skilful execution of it justify this. Even out of a parallel advance, a concentric attack usually resulted, because the Prusso-German troops always march with a very broad front, more than a division of the army being seldom placed upon one road, and because the ordinary form of their Offensive, carried out under all circumstances, framed itself as follows:—

As soon as the advanced guard struck upon the enemy it laid hold of him and entered upon an earnest struggle of some duration. The Artillery was immediately pushed forward in as great strength as possible, and played on the enemy's front from the nearest positions, often at from 1,400 to 1,600 paces; while the Infantry was at once directed against one flank of the position (or, if the position was very contracted, against both flanks) in order to surround it. Only a pro-

because the defenders have no retreat over the steep slope, and that of the height itself is, on account of the wood and steepness of the slope, much increased in difficulty. To penetrate the wood from the direction of St. Arnual (Darlen) is comparatively easy.

The third position is that upon the heights behind Spichern, the best of all three, because it has in front of it a wide, open, and gentle rising plain.

The second position meets the third in the direction of Forbach, and its left flank rests upon a thick wood.

Even though this wood be considered a drawback to the defence, it still can be turned to good account for offensive purposes; and on the other hand the right flank is well appuyed upon the Saar. During the action the French only occupied the second and third positions.

The 7th and 8th Corps of the 1st Army, the 3rd Corps of the 2nd Army, and the 5th Cavalry Division, were directed, on the 6th of August, to the Saar, in the neighbourhood of Saarbrücken. Each division had a road allotted to itself for its line of march. The distance of the roads from one another was for the most part about half a mile,* and therefore the various parts of the army marched with a broad front. The advanced guard of the divisions, differing in strength

* The Author speaks throughout, it must be remembered, of German miles, which are equal roughly to 4¾ English miles.

and composition, were for three-quarters of a mile to a mile in front of the main body. Cavalry patrols had already reconnoitred the country, and the position and strength of the enemy was sufficiently well known.

It may be here remarked that an attack on the 6th had not been meditated, and that General Kameke, the Commandant of the 14th Division, only engaged because, being informed of the intention of the enemy to abandon the position, he wished to detain them in it, in the interest of the strategic combinations. The French, moreover, had already almost entirely withdrawn from the position on the Saar, and were on the heights south of Spichern and near Forbach.

On the approach of the enemy, however, they again occupied the wood of Stiering and the steep ridge of heights north of Spichern.

The 14th Prussian Division crossed over the Town-bridge with one Brigade (the 27th), and over the Railway-bridge with the other (the 28th), so that the Infantry Brigades were separated during the passage 3,000 paces from one another. Some regiments of Cavalry and the batteries of the 5th Cavalry Division (Rheinbaben) crossed the Saar between the two.

The right wing (28th Brigade) immediately after the passage struck upon the enemy in the wood near the factory and sheltered by the wood, was able to form for action. In the same way the Winterberg favoured the advance of the

27th Brigade, but the 39th Regiment seems to have pushed forward somewhat hastily, and directly against the Spichern Berg, through the open hollow 2,000 paces broad, and suffered enormous losses. Whether this Regiment was obliged to retire to the Winterberg, or maintained itself in the hollow does not appear clear from the accounts. A Battalion of the 74th Regiment deployed on the Winterberg, and went forward on the left of the 39th Regiment. Its skirmishers passed the hollow and succeeded in reaching the edge of the wood, which, as we have said, was not everywhere defended with pertinacity by the French, because the ascending slope behind was here and there so steep that the defenders of the edge of the wood could not climb it under the enemy's fire in order to retreat. The two other Battalions remained on the Winterberg, a direct advance being here impossible. In the meantime, the Divisional Artillery of the 14th Division and two Batteries of the 5th Cavalry Division unlimbered on the Galgenberg, their fire being principally directed from a distance of less than 2,000 paces upon the spur-like projecting portion of the Spichern Berg, over which winds the wretched road to Spichern. The Cavalry stood under cover behind the Galgenberg.

The fight had entirely come to a stand-still at three o'clock in the afternoon. The French made no movement, because they were just bringing up troops; the Prussians were in a somewhat

precarious position awaiting reinforcements, and restricted to a desultory fight. General Göben, commandant of the 8th Corps, now arriving with the 40th Regiment on the field, immediately directed it towards his own left flank. He recognised the only assailable point of the position; viz., where the open hollow narrows, and the hills, flattening, branch off towards St. Arnual, as far as the Saar.

The 40th Regiment alone, however, was not sufficient to make its way up to the true point of attack, and on that account Döring's Brigade of the 3rd Corps was, upon its arrival (at half-past three), also ordered towards the left flank in order to turn the enemy's position from the direction of St. Arnual. The Brigade had to bend far away to the left, and a gap was thus created between it and the 40th Regiment. An effort of the 27th Brigade was unsuccessful, and it was only the skirmishers of the 40th Regiment who succeeded in effecting a lodgment within the lower edge of the wood which covered the slope.

In the meantime the 12th Regiment (10th Brigade, 5th Division, 3rd Corps) came up and filled the gap between the 40th Regiment and Döring's Brigade. Two Battalions of the Regiment hurried with great bravery across the open hollow (here about 1,000 paces broad), and after sustaining fearful losses pushed, not only their skirmishers but also some closely formed sub-divisions, into the dead angle which is formed

by the steep slope of the so-called Rothenberg. This latter is a bare portion of the chain of heights which fall down precipitously to the north between the Goldene Brenner and St. Arnual. The French had placed rifle pits at this point, from which they overwhelmed the assailants with projectiles. The ascent of this height by the 12th Regiment is, what is usually understood as the storming of the Spichern Berg. Heroic as this attack was, I can still only regard it as a proof of the capacity of the troops, and cannot ascribe to it the decision of the day, which was evidently brought about by the flanking attack of Döring's Brigade beyond the extreme right wing of the French. The head of the Brigade debouched from the wood upon the plateau of Spichern at the same moment that the 12th Regiment carried the rifle pits.

In spite of the success on the Prussian left flank, the French could not be driven from the spur-like projection near the road to Spichern, and two Batteries had to be brought up on the left flank before the enemy could be forced to completely abandon the edge of the plateau. At this point the singular case occurred of a Horse Artillery Battery driving up a path in the woods which the Commander of a body of Cavalry had designated as too steep for his horses.

One should notice the rapidity and skill with which the position won on the border of the plateau, along the narrow edge of the wood, was occupied by Infantry and strengthened by Artillery,

so that all the Offensive efforts which the French undertook upon the plateau of Spichern were entirely unsuccessful. The Prussians were contented for their part with holding fast the position won on the left flank, while they urged on with so much the more energy the advance of their own right wing. In the meantime six fresh Battalions of the 5th Division (3rd Corps) had arrived, from which a Reserve was wholly formed in the centre. The want of this might have been dangerous.

Immediately after the capture of the heights this reserve was directed towards the right wing, and took an active and successful part in the action —partly on the left of their own right in the direction of the Goldene Brenner; and partly by turning the enemy's left in the direction of Stiering—so that the French were pressed back towards Forbach and the Kreutzberg. After 8 o'clock in the evening the 13th Division (7th corps) arrived from Rockershausen at Forbach, and made yet another attack upon the town, which was not sufficiently occupied by the French.

This danger to their principal line of communication produced great confusion among them.

I have described the action of Saarbrücken so minutely, because it is a good example of the universally adopted Prussian mode of fighting; and because I wished to oppose the widely-spread notion that the position of the French at Saarbrücken was carried by a bold attack of the bayonet. All that can be asserted is, that, of the many attacks undertaken with unusual bravery, one only

succeeded, and that too under the influence of a flanking movement earlier entered into.

The fighting of the first period of the campaign of 1870 yielded incontestable proof that *the attack in Line of Columns on open ground was a useless waste of men.*

It would be impossible, however, to entirely avoid attacking on open ground, and to gain the object by turning the flanks alone, particularly in the case of great battles: it was therefore necessary to discover another form of attack. This was employed by the commandants of the Garde and the 3rd Corps, and successfully carried out.

At the taking of Le Bourget (north of Fort Amanvillers at Paris) on the 30th October, 1870, the Garde found itself in a position to put this new method of fighting to the test. I will describe the action at this place and mode of conducting it very briefly; and in the latter one can discover a great similarity to the system which Major-General Baron Mondel put into practice in the autumn of 1869 at an instructional manœuvre on the Dachlowitzer Berg.

Le Bourget is a village of some length, the gardens of which are surrounded by long straight walls 6 feet in height, intersecting each other at right angles. These were prepared for defence by loopholing and heaping up earth, and the entrance to the village was barricaded.

The attack was undertaken from three sides,

viz.:—from Blanc-Mesnil, Dugny, and along the road between them. The two flanking columns sent to the front clouds of skirmishers, which gained ground at the double, and then threw themselves down. The supports and reserves followed these, *spread out in extended order*, and also at the double. As these latter threw themselves down to rest, the skirmishers again ran forward, and at the same time bore off towards the flanks. When they arrived within range, they again threw themselves down, and opened fire upon the enemy. The gaps which occurred from drawing off towards the flanks were filled up by extending sub-divisions. In like manner the flanks were prolonged by single companies advancing one after the other, but always in extended order, so that the concentric attack, which had moreover—as the enemy was approached—become denser in character, kept always assuming a more enclosing form. Each of the extended bodies of troops took advantage of whatever cover offered, in order to rally behind it and collect together. Thus in front of the north-east flank, a row of dung heaps had been left upon the field, which afforded a rallying place for an entire company, which opened from behind these a destructive fire upon troops who came forward to attack. On the other flank, the bed of the brook Le Moleret afforded a slight protection, and was at once turned to account by a few formed companies, in order to cover an onset against a counter-attack delivered from Drancy.

The mechanism of the attack consisted principally in the rapid change from open to close order directly the most trifling cover admitted of the rallying of a sub-division or company. On the other hand, every advance over open ground took place in widely extended skirmishing lines, which moved on like ants.

The right wing was left behind; the centre had not sufficiently extended itself, and had renounced old forms too little, and its losses were enormous; but the attacking left wing, under Lieut.-Colonel Graf Waldersee, pressing forward in long thin lines, succeeded in making good an attack of skirmishers up to the garden walls, in silencing the fire from them, and in breaking into the long village, both from its flanks and rear. Its defenders now gave way. General Budritzky was able to enter from the front, and the right-flank column to reach the rear entrance without very severe loss.

The attack in open order, joined to the attack of skirmishers, was from that time adopted as the only efficacious one; and it was strictly forbidden to lead bodies of troops, in close order, within a nearer distance of the enemy's fire than 2,000 *paces.*

The mitrailleuse and accurately exploding shells would render a further advance of the sort impracticable, even if the breechloader were handled by riflemen who showed no more skill in fighting than did the French soldiers in this war; but when the breechloader is handled by good marksmen, one may say confidently that any attack in close bodies, over open ground, would be an impossibility, and

that even the attack of skirmishers, and that in open order, must entail much loss.

The Prussians adopted a similar form of attack on close intersected ground. They succeeded ordinarily in bringing up columns under cover, unperceived, to within 2,000 paces; and were then able to commence a regular skirmishing engagement in which the Chassepot did not assert its superiority to excess.

But in order to get well up to the enemy's position, it was unavoidable at last to traverse open space, which was effected either by a charge of the skirmishing line (often unsuccessfully) or by the extension of troops, standing in reserve, diagonally to the flanks,—a movement which was repeated until the weak side of the enemy was discovered, and the skirmishers had succeeded in penetrating at some particular spot.

It should be mentioned that the Prussians were very fond of utilising wooded ground for their offensive movements. The excellent training of their Infantry gave them a marked superiority in this kind of fighting.

We may allude to other exceptional forms of attack in this varying war. For instance—at Le Mans, two Battalions of Jägers made an attack in skirmishing order by night, without firing, or even loading; and succeeded in surprising an important position, taking a good many prisoners.

Another time, some French troops were driven from their rifle-pits by mere shouting. Jests of

this kind could be played upon an army composed of such elements as that of Chanzy at Le Mans and Trochu in Paris.

The French put a singular, new, and promising mode of attack in practice against Le Bourget, and also against Chateau Ladonchamps, north of Metz. They advanced, from Drancy and Woippy respectively, against these places by flying-sap. The armistice (and in the other case, the capitulation) interrupted this work, which had already progressed far.

On the occasion of this advance by flying-sap, and also in their trenches and rifle-pits, the French made use of a new and good method of obtaining cover and defence for Infantry. They placed, in the thrown-up earth, baskets of a conical form, which had a hole in them of only three inches in diameter, so that the soldier did not require to fire over the breastwork, and was better covered than behind a crenelated wall.

There were frequent instances also of the employment of sand-bags laid crosswise, one of which was extracted, so that an opening was made through which a man could fire. The employment of baskets is more advantageous than that of sand-bags, because the former afford a more extended field to the firer.

In conclusion, I must remark upon one important circumstance, which follows it is true from what has been already said, but which is worthy

of special mention and consideration. In old instructional books on tactics, we find the principle laid down that a position can only be considered as occupied in sufficient strength if a hundred thousand defenders can be counted to one mile of front,* and that the same proportion holds good on open battle-ground. In spite of the increase of power of cannon and small-arms, this principle has passed into the latest books of instruction, and the French Army did not possess sufficient manœuvring capacity to emancipate itself from it.

We find the French in all their positions massed in such a way that more than 10,000 men have to be counted to the kilometre.†

They offered, thanks to their dense formations, and still by no means deep order of battle, an admirable mark for the enemy's artillery; at the same time impeding by their own movements, which were almost always executed by lines, the range and effect of their own fire.

In no instance is this massing of troops so glaringly exhibited as in the battle of Sedan. There the space which the whole French Army took up in the fight was at the beginning of the battle less than one-third, and later hardly one-fifth of a square mile German. The Army was crowded together in such a manner that for each man a space of only about 14 paces square was left to

* *i.e.*, to about 4¾ miles English.

† *i.e.*, to about 1,100 yards English.

move in. In a position so dense, and moreover without cover, every one of the enemy's shells which exploded must have taken effect.

The dispositions of the French however at Sedan are exempted from criticism, since political and personal considerations over-ruled all military arrangements. The battle of Metz on the 16th August—called the battle of Mars-la-Tour—furnishes, however, the proof that the French, without being driven to it by circumstances, massed their troops in a very unreasonable manner. It is true that on this day they were the side attacked, but their attitude was soon, and properly, changed for the Offensive. Instead of attempting this offensive, however, against one of the enemy's flanks, they made direct offensive attacks and merely secured their own flanks.

An offensive movement, already commenced by their Garde Corps against the right flank of the enemy near the Bois des Oignons, was discontinued, out of apprehension for the centre; and then, along a front of only 10 kilometres between Rezonville and Mars-la-Tour, two corps upon the right flank—north of Mars-la-Tour—and three upon the left—north of Vionville—remained, one behind the other, upon open gently undulating ground, which (with the exception of the thin wood of Vionville) offered to the enemy no kind of cover for approach. These five army corps fought throughout the entire day upon a space of about half a square mile against an enemy hardly half

their strength, both sides being in open ground almost divested of cover.

At Metz, on the 18th August, the front of the French position amounted to a little less than 12 kilometres for 150,000 men.

I cannot coincide in the opinion of the Russian General Leer (Vedette No. 58) who designates the position of the French—which, from the peculiar nature of the ground, was a very strong one,—as too extended; although, according to his own statement of numbers, from 8 to 9 men must be counted to the pace. According to my own view, the French should have extended their right flank as far as Orne-Fluss—and therefore four kilometres further—and remained determinately on the defensive in the main position until the whole Prussian Army had become engaged, when an offensive movement through the Bois de Vaux, *i.e.*, against the Prussian line of retreat, would have been very effective. It is, however, easy to criticise after the event, and yet not to act up to it at the time; indeed the time has not yet arrived for criticism, as we do not know sufficiently what the reasons were which induced the French to take up the line of action which was fraught with such fatal results for them at Metz.

Faidherbe, with 70,000 men, occupied only 6 kilometres of the strong position on the Hallue (north-east of Amiens), although General Manteuffel, who was attacking him, was not half so strong, and the right flank plainly invited a further extension of the position.

Chanzy's position at Le Mans on the 12th of January, 1871, had an extent of front of 12 kilometres; his army, according to the report of Colonel Elphinstone, an English officer, must have been nearly 200,000 strong.

It is only in the battle of Wörth, and in the actions at Meuny and Beaugency, that we find the French with a somewhat more extended front.

The French massed their troops on the Offensive even more than on the Defensive, as the battle at Metz on the 16th of August just described, and the battle at Mont Valérien on the 19th of January, 1871, demonstrate.

If the Prussian Artillery appears so conspicuously superior, the French tactics which offered to it such living targets are alone to blame.

An army which holds fast to the principle of necessarily counting in battle 100,000 men to the mile will never be able to manœuvre.

In moments of anxiety, the snail, it is true, shrinks into its house, and the tortoise into its coat of mail; but for that reason neither tortoises nor snails will ever dictate laws to the world.

Very different were the circumstances of space connected with the advances and movements of the Prusso-German army.

We have already established that the offensive movements of the Prussians were never by entire lines, but always by wings.

Their extraordinary manœuvring capabilities

enabled them also to take up much greater distances. When acting on the Defensive, they occupied the objective points with a very small force, and were thus continually in a position to dispose of very powerful bodies for the purpose of wide-reaching Offence. In almost every instance they succeeded in out-flanking the enemy, who was frequently more than double their strength, and compelling him by flank attacks to abandon his strong ground, if not to capitulate.

In the action of Saarbrücken the total number of troops fighting on the Prussian side, towards the end of the contest, was at the most 42,000, and the extent of front was over 6 kilometres, or about 5 men to the pace.

At Metz, on the 16th of August, less than 100,000 Prussians fought upon a front of 12 kilometres against double their force. Therefore, about 8,000 men must be counted to each kilometre of front, or 6 men to the pace.

At Metz, on the 18th of August, the great distance of the French right flank from the Prussian left flank did not allow of a march, which had been intended, being fully executed, and as a result the position was disproportionately crowded.

In all subsequent engagements the extension of the Prussians was far greater. The inferiority of the enemy is not alone accountable for this, but the chief cause of it must be sought for in the knowledge obtained, during the early engagements of

the war, that their losses increased disproportionately when positions were densely occupied; and that the power of an attack did not consist solely in the mass of the assailants, but depended upon their skill and the correct discovery of the weak side of the enemy.

In the action at Querrieux, on the Hallue, north-east of Amiens, on the 23rd December, 1870, Manteuffel attacked Faidherbe's strong position already alluded to, with scarcely 25,000 men, and his front extended to nearly 1¼ miles, so that hardly 2 men can be counted to the pace.

At the end of the concentric attack upon the forest of Orleans, we find the troops of Prince Friedrich Carl and the Grand Duke of Mecklenburg in the closest disposition which they assumed on that day. They took up two miles for a strength of less than 100,000 men, therefore there were not 5 men to the pace. At the beginning of the action only 2 men could be counted to the pace.

At Le Mans on the 11th January, 1871, the Third Army Corps had an extent of front of 8,000 paces for a strength of 16,000 men. The whole of the troops fighting on that day, with the exception of the detached 13th Corps, took up a comparatively crowded position, because the 10th Corps did not entirely deploy. Five men may be counted to 2 paces.

Finally, at St. Quentin, on the 19th January, 1871, at the beginning of the fight, there were

about 30,000 men to 5 miles, or 6,000 men to the mile; at the close of it, however, there were 30,000 men to 2 miles, and therefore only 3 men to 2 paces.

One must, however, be cautious in drawing conclusions regarding the possible result of tactics in the future from what the Prussians succeeded in doing. It would be better, in commencing to do this, to enumerate what the French did *not* succeed in, and to seek for the reason why they did not succeed in it.

Now it is certain that the French hardly ever succeeded in a single attack upon a wall or earthwork occupied by Germans. Only weak advanced posts were driven away from such places, while frequently an attacking force ten and twenty times superior in numbers gained no success.

Thus it was at Le Bourget on the 21st December, at Villiers on the 30th November and 2nd December, at the so-called battle of Mont Valérien on the 19th January, at Beaune la Rolande on the 28th November, and at Baroches les Hautes on the 2nd December.

All the attacks were direct offensive efforts made in extended order, (or rather in an irregular disorder,) over open spaces against occupied walls or rifle-pits.

Instead of standing fast in front, and then operating against a flank, to which their own superiority of numbers plainly invited, dash after dash

was made and failed each time with a terrible sacrifice of life.

At Villiers on the 30th November there were two flat hillocks at a distance of 600 paces from garden walls, which latter were held by the Württembergers with two battalions. These eminences had already been seized and occupied with mitrailleuses, and three French brigades lay behind them.

Instead of making a concealed flanking movement under shelter of these eminences; separating Villiers from Noisy; and pressing forwards, over a by no means sufficiently strengthened plain, towards Ort Tilliers, nothing was done beyond repeating offensive efforts against the garden wall, which, together with its defenders, held out throughout the entire day.

The same thing happened at the garden wall of La Bergerie, not far from the redoubt of Montretout, above St. Cloud, on the 19th of January.

I have, from all the considerations just discussed, arrived at the full conviction that the bayonet assault can only be carried out in future in the form of an attack of very small or extended bodies of troops, and that in every case the attack with musketry fire must take its place.

The principle that *the deciding of a battle is only to be sought for from the Offensive, and that the Defensive must be regarded merely as a preparation for the Offensive*, will not be derogated from by this, and cannot, as a whole, be subverted by any

change in weapons. Decisive results are only to be expected from Offence.

Nevertheless, since the introduction of the breech-loader, the effect of fire has gained so great an ascendancy both in offence and defence, that the bayonet-attack, which, in respect to its effect, remains unchanged, can no longer be placed in comparison with it.

The French method of fighting in the late war affords proof, in the failure of all its numerous bayonet-attacks, that a direct offensive effort against well-handled breech-loaders is ineffectual; whilst the Prussian mode of attack gives fresh proof that, by skilfully employing the breech-loader, the offensive in the form of musketry fire is a form of attack over which the defensive can only assert superiority momentarily, when open ground places the assailants at too serious a disadvantage.

So long as the slow loading-process of the muzzle-loader did not permit the Infantry soldier to use his weapon—in other respects an excellent one—quickly and instantaneously, that weapon was only a defensive one.

Making use of it in the offensive was so difficult that, in order to carry through an offensive musketry fire action, better trained troops than the great bulk of the Infantry could be, were required.

Now circumstances have changed. To troops armed with the breech-loader there is no longer any impediment in the way of carrying through an offensive attack with musketry fire.

It is certainly to the greatest credit of the Prussian Strategy that they united such masses of men with a precision so extraordinary at decisive points, and by that means opposed a superiority of force to the enemy wherever it was necessary.

Equal praise is due to their Tactics, inasmuch as they very rarely wasted this superiority in massive attacks; but their aim, on the contrary, was always to economise and husband resources.

The Prussians—and I think we agree with them thoroughly in this—place the greatest importance upon the skilful conduct of *Offensive fire-action.* They have gained victories by means of it, than which more brilliant ones could not have been desired. For many years the Prussians have spared neither expense nor trouble in grounding their whole Infantry in every description of firing fighting.

It was the triumph of a consistent and intelligent culture, the aim of which—always directed to what was practical—spared neither time nor trouble, nor energy, nor patience, in order to attain to what was necessary to give the soldier a training specially adapted to war.

Discipline in marching, and skill in marching resulting from it; discipline in firing and increased accuracy in shooting resulting from it; attention to "Apell"* and self-reliance resulting from this;

* It is difficult to find an exact equivalent for the word "Apell" in English. "Disciplined obedience," perhaps, conveys the meaning very nearly.

—it was through these things that the Prusso-German Infantry at once, in the first actions, paralysed the opposition of the French; and have since completely broken up and destroyed it; so that of the former French Army only a few useless fragments remain; and indeed never in the world has a host been so thoroughly broken up and destroyed as was that splendid French Army in the campaign which has just ended.

Let us now glance at the innovations concerning the Infantry, which the experiences of the late war bring out as necessary. Their number is not great; and we require only a few changes in our Regulations in order so to enhance the skilful performances of our Infantry as fully to meet all the demands of the present day.

In order to increase marching power, the introduction of boots* and cooking-tins (à two portions) to each man, is absolutely necessary. Both these matters are already intended by the Minister-at-War, but the prompt distribution to the troops of such essential means of furthering rapidity of marching is much to be desired.

In order to increase accuracy of shooting, some substantial alterations must find a place in the Musketry Instructions as they now stand, so that the soldier may be educated to field, more than to target, firing. It is necessary also to lay down

* As opposed, apparently, to the half-boot.

yet more precise instructions regarding the practice of volley firing, and to improve readiness in fire, as well as skill in aiming, by making it obligatory upon the Infantry soldier to perform the practice daily. In the same way aiming and firing at moving objects must be a subject of exercise at every drill parade.

In order to stimulate "Apell," and enforce discipline in firing, the assembly and expansion of small bodies in far more extended fashion than the Regulations at present prescribe must be practised, in addition to the persevering performance of the regulations already contained in the Instructions.

The Prussian commander of a company can let his men extend or open out without anxiety, even on ground offering the greatest possible amount of cover. He knows that a word from him, passed on from group to group, is sufficient to place his men in close order in whatever spot he desires.

With us a tendency always prevails to confuse assembling with retiring. The offensive assembly for a forward or flank movement, is still incorrectly understood and practised. On this point the Instructions are wanting in the precision which is so necessary.

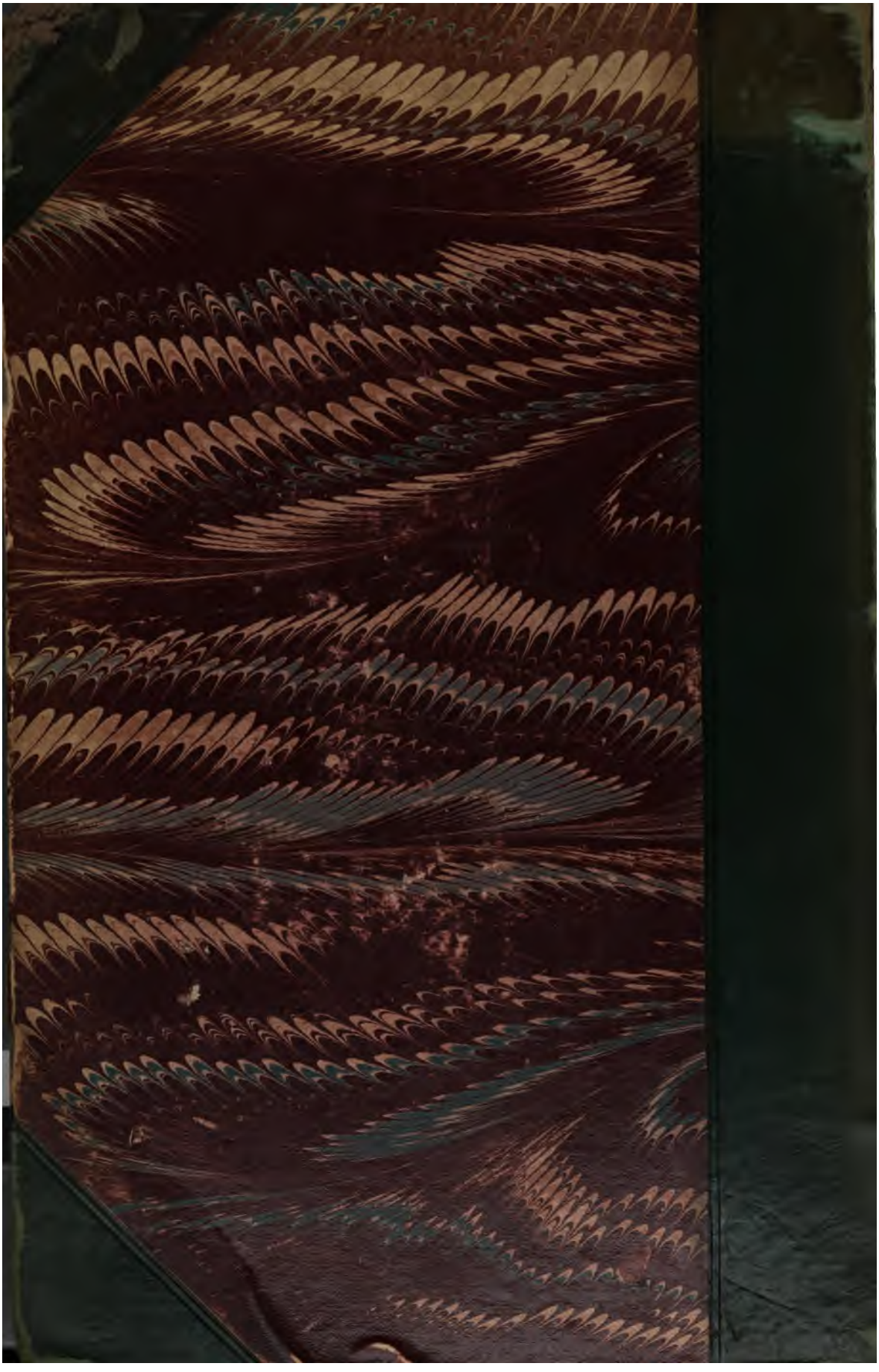
It would be consistent also with this to issue precise rules regarding fighting at close quarters, in enclosed and open ground; the present lecture renders it unnecessary for me to say anything in confirmation of this.

Finally, numerous weighty reasons speak in

—it was through these things that the Prusso-German Infantry at once, in the first actions, paralysed the opposition of the French; and have since completely broken up and destroyed it; so that of the former French Army only a few useless fragments remain; and indeed never in the world has a host been so thoroughly broken up and destroyed as was that splendid French Army in the campaign which has just ended.

Let us now glance at the innovations concerning the Infantry, which the experiences of the late war bring out as necessary. Their number is not great; and we require only a few changes in our Regulations in order so to enhance the skilful performances of our Infantry as fully to meet all the demands of the present day.

In order to increase marching power, the introduction of boots* and cooking-tins (à two portions) to each man, is absolutely necessary. Both these matters are already intended by the Minister-at-War, but the prompt distribution to the troops of such essential means of furthering rapidity of marching is much to be desired.

In order to increase accuracy of shooting, some substantial alterations must find a place in the Musketry Instructions as they now stand, so that the soldier may be educated to field, more than to target, firing. It is necessary also to lay down

* As opposed, apparently, to the half-boot.